

# **The Annual Report of the Recycling Public Advisory Council**



**Presented to the  
Honorable Jack Markell, Governor of Delaware  
and the  
146th Delaware General Assembly**

**November 2011  
(Tenth Edition)**



# The Annual Report of the Recycling Public Advisory Council

November 2011 (Tenth Edition)

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## *Executive Summary*

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The past few years have seen several significant developments related to recycling in Delaware: The introduction of single stream recycling, the yard waste ban at Cherry Island, the openings of the Wilmington Organics Recycling Center and Blue Hen Organics, the extension of the yard waste ban to our remaining landfills, the passage of the Universal Recycling Law, and now the addition of possibly two Material Recovery Facilities in Delaware. These are all major advances and are reflected in our increasing diversion rates.

We have finally created a stable environment in Delaware which is supportive of recycling activities. There are many benefits to recycling which are often touted and occasionally debated, but there is one impact which most people support and which should be acknowledged here: Through a difficult period of economic recession, our recycling policies in Delaware have created significant new industry and new jobs and it appears that there is more to come.

This report covers recycling activities since November 2010 and recycling measurement for calendar year 2010. The Recycling Public Advisory Council (RPAC) has 16 Members and has met regularly since our last report in November 2010. In addition to supporting and reporting on recycling activities, the RPAC is diligently working with all stakeholders to help implement the requirements of Senate Bill 234 (SB 234), the Universal Recycling Law, in the timeframes required. A more detailed discussion of these efforts follows.

### **Recycling Legislation**

Since the signing of the Universal Recycling Law in June of 2010, the RPAC has focused upon the implementation of the many elements of this law. The first major milestone of this law was residential single-stream recycling which officially began September 15, 2011. However, many haulers voluntarily complied with this several months earlier. The initial reports from waste haulers are that the program is generally being received very well.

### **Recycling Grants and Loans Program**

The RPAC has worked with the Department of Natural Resources and Environmental Control (DNREC) to develop grant and loan guidelines required by SB234. The application period for the Universal Recycling Grant and Low-Interest Loan Program was announced in late 2010 and ended January 24, 2011. As of November 2011, twenty-two entities have received funding opportunities totaling over \$4.8 million.

### **Outreach and Education**

The RPAC believes that efforts to increase the awareness and benefits of recycling are critical to improving how waste is managed in Delaware. Therefore, the RPAC has worked with the DNREC and the Delaware Solid Waste Authority (DSWA) to develop and implement

outreach efforts. This has included such items as radio ads encouraging recycling, public meetings, billboards, and a how-to guide to inform individuals on what and how to recycle.

## Recycling Diversion

The RPAC has an objective, scientific, and auditable methodology for calculating recycling rates in Delaware that is consistent with the U.S. Environmental Protection Agency's guidelines. The RPAC continues to measure recycling diversion and to maintain that methodology. A summary of the recycling rates produced using this methodology is shown in Table 4.3 below:

<b>Table 4.3 Recycling Rate Summary Table</b>							
	<b>Total</b>					<b>Residential</b>	<b>Commercial</b>
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2010</b>	<b>2010</b>
<b>Diverted Recyclables (tons)</b>	248,410	323,396	318,002	323,637	359,147	241,600	117,547
<b>MSW Disposed</b>	823,479	794,984	741,143	668,353	706,368	362,924	343,444
<b>Total Municipal Solid Waste = Diverted Recyclables + MSW Disposed</b>	1,071,889	1,118,380	1,059,145	991,990	1,065,515	604,524	460,991
<b>Percent Diverted Recyclables</b>	23.2%	28.9%	30.0%	32.6%	33.7%	40.0%	25.5%

It is important to note that the first full year of data in which Universal residential recycling was implemented will not be *reported* until 2013 and not until 2015 for commercial universal recycling. With a statewide recycling rate of 33.7% for Calendar Year 2010 and the impact of the Universal Recycling Law still to come, Delaware appears to be on track to meet or exceed our goal of 50% diversion of MSW by 2015.

## Recommendations

The RPAC's recommendations to Governor Markell and the General Assembly include steps they can take to increase the recyclables diversion rate:

- 1. Support recycling outreach and educational efforts in Delaware.** There is a need to help Delawareans understand how to recycle, opportunities for various materials, and the benefits of recycling from both the residential and commercial sectors.
- 2. Implement a comprehensive recycling program for all state offices and schools.** Many executive branch offices seem out of compliance with Executive Order 18. There should be provisions for legislative branch offices, judicial branch offices, and schools to start recycling programs.
- 3. Support the continued implementation of Universal Recycling as enacted by law.**
- 4. Continue to support the Division of Revenue efforts to maximize bottle recycling fee revenues.**

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## *1.0 Purpose*

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This is the Annual Report of the Recycling Public Advisory Council (RPAC). The purpose of the report is to fulfill requirements of 7 Del. C., §6058, which directs the RPAC to prepare an annual report addressing the following:

1. The status of attainment of the recycling goals specified in 7 Del. C., §6056;
2. An accounting of the recycling grants and loans programs and recommendations for future funding of the programs;
3. An assessment of the activities of both the DNREC and the Delaware Solid Waste Authority (DSWA) in achieving the goals specified in 7 Del. C., §6056;
4. An objective, auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste; and
5. Such other recommendations as the RPAC shall deem appropriate.

Senate Bill 234 is attached to this report as Appendix A. A list of the current RPAC members can be found in Appendix B.

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## 2.0 Background

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### 2.1 Benefits of Recycling

There is more to recycling than feeling good about the environment. It also has tremendous economic value. Recycling:

- **Provides over 10 times more jobs than landfilling**
- **Extends the useful life of municipal landfills**
- **Reduces emissions of greenhouse gases**
- **Saves energy**
- **Conserves natural resources**
- **Reduces environmental damage from industrial, residential, and commercial waste**
- **Teaches environmental stewardship to individuals**

For further detail and supporting documentation please reference *The Sixth Annual Report of the Recycling Public Advisory Council*, visit the RPAC website, or contact the Division of Waste and Hazardous Substances.

The Recycling Economic Information Study, which RPAC assisted, was completed in early 2009. This report is available on the Northeast Recycling Council's website, [www.nerc.org](http://www.nerc.org). An important note is that the Delaware recycling, reuse, and remanufacturing industry has a \$346 million direct positive impact on our State's annual economy and this number is growing.

### 2.2 Timeline of Recent Recycling Efforts in Delaware

The Cherry Island Landfill permit was renewed in 2006 with language that required the DSWA to ban yard waste from entering the landfill no later than January 1, 2007. After dozens of community meetings, a legislatively mandated delay in the ban, and the opening of three community yard waste demonstration sites, DNREC and the DSWA began enforcement of the ban on January 24, 2008.

House Bill 159 (HB 159) was introduced in 2007 and would have encouraged recycling via a comprehensive recycling grants program while discouraging disposal via a \$3 per ton assessment on landfilling. In May of 2008, HB 159 passed in the House of Representatives but was defeated in the Senate in June of 2008.

Starting in January of 2008, Kent County provided single-stream recyclables collection to residents serviced in their trash districts. This increased the number of Delaware households participating in recycling by over 11,000.



In early 2008, the DSWA converted their recyclables collection programs to single-stream. Participants no longer needed to separate traditional recyclables (i.e. glass bottles, cans, plastic bottles, mixed papers) by material type. As a result, recycling became more convenient and easier for people to participate. Other entities, including some waste haulers, also began to offer single-stream recyclables collection service.

House Bill 201 was passed by the General Assembly on the last day of session in June of 2009. It essentially repealed the Delaware Beverage Container Law (or Bottle Bill), removing the deposit and redemption system related to beverage containers. However, Governor Markell vetoed House Bill 201 in July of 2009 on the grounds that it would have a negative impact on recycling while offering no viable alternative.

A large, new compost facility broke ground near the Port of Wilmington in May of 2009. Peninsula Compost Company, LLC completed construction of the Wilmington Organic Recycling Center in December 2009. It has the capacity to compost 160,000 tons of food and yard waste annually.

In February 2010, Governor Markell signed Executive Order 18. This Executive Order set goals in the following categories for the executive branch of state government: energy conservation/efficiency, LEED green building practices, renewable energy, reduced transportation impacts, recycling diversion (75%), and environmentally preferable purchasing.

The Delaware Solid Waste Authority updated its Statewide Solid Waste Management Plan in April 2010. It calls for many waste reduction strategies, several of which require action from government and businesses.

The composting operation of Blue Hen Organics near Frankford, Sussex County was approved in April 2010. The facility accepts up to 50,000 cubic yards of yard waste and wood waste annually.

On June 8, 2010, Senate Bill 234 was signed into law. This legislation passed after significant input from many stakeholders and coordination from the Governor's Office. It will transition Delaware out of a flawed beverage container deposit system into a strong, comprehensive recycling system. It also legislatively created a reformed RPAC.

In July of 2010, the DSWA and DNREC agreed to permit conditions that restrict yard waste at the Central Solid Waste Management Center (Sandtown Landfill) and the Southern Solid Waste Management Center (Jones Crossroads Landfill). As of January 1, 2011, those facilities no longer accept yard waste mixed with trash.

As of September 15, 2011, all single-family households and many bars and restaurants have been provided recycling collection services.

A background of previous recycling efforts in Delaware can be found in Appendix H.

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## 3.0 *RPAC Activities*

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Over the past year, the RPAC has primarily focused its efforts on implementation of the measures called for by Senate Bill 234. This includes providing recycling grant and loan guidance, establishing recycling industry reporting guidance, and measurement and reporting of the amount and percent diversion of recyclables from Delaware landfills.

### **3.1 *By-Laws***

With the passage of SB 234, the formerly existing RPAC was reformed. The membership was expanded to 16. The RPAC quickly set to develop bylaws with the goal of being as transparent as possible. Though most were already in practice, the bylaws set the foundation for how the RPAC conducts business. These bylaws are publically available on the RPAC website.

### **3.2 *Measurement and Methodology***

Prior to the reformation of the current RPAC, a Measurement and Methodology Subcommittee developed a methodology for measuring recycling diversion rates based upon EPA guidelines. This methodology provided an objective and auditable approach to recycling measurement which was relevant and repeatable. The Subcommittee's name has been changed to "Measurement and Reporting" but their work continues in the current RPAC and has resulted in the fifth Recycling Measurement Report (included as section 4.0 of this report). Most importantly, these Recycling Measurement Reports establish a uniformly accepted approach that will make past, present, and future recycling measurements consistent and comparable.

The RPAC and DNREC have developed guidelines for the recycling industry to report information as directed by state law (7 Del. C., §6056). The RPAC is using, and has used, a consultant to collect recycling data. Because reporting on commercial recycling activities was not previously obligatory, the Recycling Measurement Report is limited to voluntary surveys. The new reporting system will generate the fullest and most accurate spectrum of data that will result in a better overall measurement of recycling in Delaware. The first reporting year with the new data collection will be 2011 which means the new data will not be compiled and reported by the RPAC until 2012. The first full year of data resulting from universal recycling will not be reported until 2013.

### **3.3 *Recycling Markets***

Paul Bickhart (RPAC Member representing the recycling industry) and Michael Parkowski (DSWA) have key industry contacts providing information on the sale of collected recyclables. They have educated the RPAC on the status of recycling markets to better understand current industry circumstances. In late 2008, the markets for recycled commodities declined sharply in response to the national and global economies. Later in 2009 prices very slowly started to improve. The outlook continued to be positive into 2010, and most recent pricing has been relatively strong and stable.

### ***3.4 Outreach***

The RPAC, DNREC, and the DSWA have coordinated education of the public on the transition into universal curbside recycling, better yard waste diversion, DSWA's departure from curbside recycling, the transition out of beverage container deposits, recycling industry reporting requirements, and the availability of a new recycling grant and loan program. They will continue recycling outreach efforts. Educating the public is of very high importance to the RPAC and a necessary part of any successful program. Citizens might not know why they should recycle or how to participate. The RPAC has developed a Subcommittee to help guide outreach efforts, including general steps forward for DNREC and the DSWA. While the RPAC does not provide recycling services, they want to facilitate and encourage recycling among citizens. Examples of DNREC and DSWA outreach efforts can be found in Section 6, Section 7, and Appendix G.

### ***3.5 Other Activities***

The RPAC is committed to helping Delaware find better waste management practices. Regular meetings provide insight into a variety of topics. Most discussions and presentations over the past year have focused on the implementation of the universal recycling legislation (SB 234). Significant time was given to helping DNREC develop the Universal Recycling Grant and Low-Interest Loan Guidance and later evaluating the applications. Other discussions and efforts have included the transition out of the bottle bill, grants and loan updates, universal recycling services, outreach, and recycling fee revenue. The RPAC spent considerable time discussing recycling fee revenue; at the writing of this report revenue was about 60% of projected.

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## *4.0 Recycling Measurement Report*

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Originally under Executive Order 90, the RPAC had been directed to use the U.S. Environmental Protection Agency's definitions of "recycling" and "municipal solid waste" and also to develop an "objective and auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste." In response to this directive, the RPAC created the Measurement and Reporting Subcommittee comprising members of the RPAC, DSWA, DNREC, and the community. Pursuant to this directive, the M&R Subcommittee produced a methodology which was developed via an open and transparent process, recorded in such a way that it could be easily understood by members of the general public, and which was fully endorsed by each organization represented on the Council. This methodology has been consistently employed by the RPAC to analyze recycling data since CY2006 so that meaningful trends and comparisons could be established. The M&M Subcommittee has continued to employ this methodology under the new Universal Recycling Law.

It should be noted that for CY2010 the methodology for calculating the Municipal Solid Waste generated was further refined based upon improved data and the recommendation of DSM Environmental Engineering. This methodology is included in this report in Appendix E.

### *4.1 Data Collection*

The M&R Subcommittee obtained data from two sources for CY2010.

- DSWA: The Authority collects "hard data" on materials handled and reports wastes handled by facility and type directly to the RPAC. This report can be found in Appendix D.
- Third Party Consultant (DSM): DSM Environmental Services, Inc. was contracted to collect data on recyclable materials generated in Delaware. This report can be found in Appendix F.

The RPAC has worked closely with DSM and the DSWA to insure that both the Authority's and DSM's methodology for data gathering are consistent with EPA guidelines and that there is no double counting of recycling activities. The survey work by DSM has been funded by the DSWA for CY 2010 but program management has been the responsibility of the RPAC.

### *4.2 Diversion Rate Calculation*

The waste stream can be broken down into two primary categories: Municipal Solid Waste (MSW) and non-Municipal Solid Waste. Put simply, MSW is what most of us think of when we think of "trash" even though it contains a high percentage of valuable resources. The EPA's guidance for calculating recycling rates limits "recycling" to the category of MSW. Additional detail regarding definitions of recycling can be found in our 2006 report and in EPA document # EPA530-R-97-011, "Measuring Recycling...".

Determining the percent diversion of recyclables from Delaware's solid waste stream involves the following calculation:

$$\text{Diversion rate of recyclables (\%)} = 100 \times \frac{\text{MSW recyclables, tons diverted}}{\text{MSW recyclables, tons diverted} + \text{MSW, tons disposed}}$$

The methodology developed by the RPAC calculates not only the total MSW landfilled tonnage and percent diverted recyclables from MSW, but also the same information exclusively for the residential sector and the commercial sector.

Therefore we also divided the total MSW recyclables data, and total MSW landfilled data, into the portion deriving from the residential sector and the portion deriving from the commercial sector. It should be noted that it is often difficult to determine whether a material was generated by the commercial or residential sector. This allocation, demonstrated in Table 4.3, was developed based upon a comprehensive waste composition studies conducted in 2006 and 2007 and the best judgment of DSM and the members of the M&R Subcommittee.

It should be noted that sector allocation for recyclables is even more difficult to determine and not always intuitive. Generally the EPA and the M&R Subcommittee allocates materials to the original 'generator' even though they may not be the one who actually performs the recycling. For example, lead acid battery recycling performed by a commercial battery retailer would be attributed 80% to the residential sector because approximately 80% of the batteries are generated from non-commercial vehicles. While this 'generator rule' can be debated, it is consistent with general EPA guidelines and has been applied consistently since 2006.

### 4.3 Recycling Rates

Since CY2006 the RPAC has employed an objective, scientific, and auditable methodology for calculating recycling rates in Delaware that is consistent with the U.S. Environmental Protection Agency's guidelines. A summary of the recycling rates produced using the aforementioned methodology is shown in Table 4.3 below:

Table 4.3 Recycling Rate Summary Table							
	Total					Residential	Commercial
	2006	2007	2008	2009	2010	2010	2010
<b>Diverted Recyclables (tons)</b>	248,410	323,396	318,002	323,637	359,147	241,600	117,547
<b>MSW Disposed</b>	823,479	794,984	741,143	668,353	706,368	362,924	343,444
<b>Total Municipal Solid Waste = Diverted Recyclables + MSW Disposed</b>	1,071,889	1,118,380	1,059,145	991,990	1,065,515	604,524	460,991
<b>Percent Diverted Recyclables</b>	23.2%	28.9%	30.0%	32.6%	33.7%	40.0%	25.5%

### 4.4 Behind the Data – CY2010

Despite a struggling economy, CY2010 saw a continued increase in diverted recyclables versus CY2009 while landfilled MSW also increased slightly, yielding a net increase in diverted recyclables of 1.1% and a statewide average diversion rate of 33.76%. More detailed recycling data can be found in Appendix C of this report.

The recycling rate is a balance of diverted recyclables and disposed MSW. Diverted recyclables increased almost 11% in CY2010 largely due to increased recycled yard waste and single stream recycling and despite the sluggish economy. This trend is expected to continue through CY2012 which will see the first complete data year of universal recycling. CY2010 saw a small increase in MSW despite the state of the economy. Part of this can be explained by the refined methodology which more accurately accounts for C&D. However, it is notable that New Castle County experienced a decrease in MSW while Kent and Sussex Counties experienced slight growth in MSW handled.

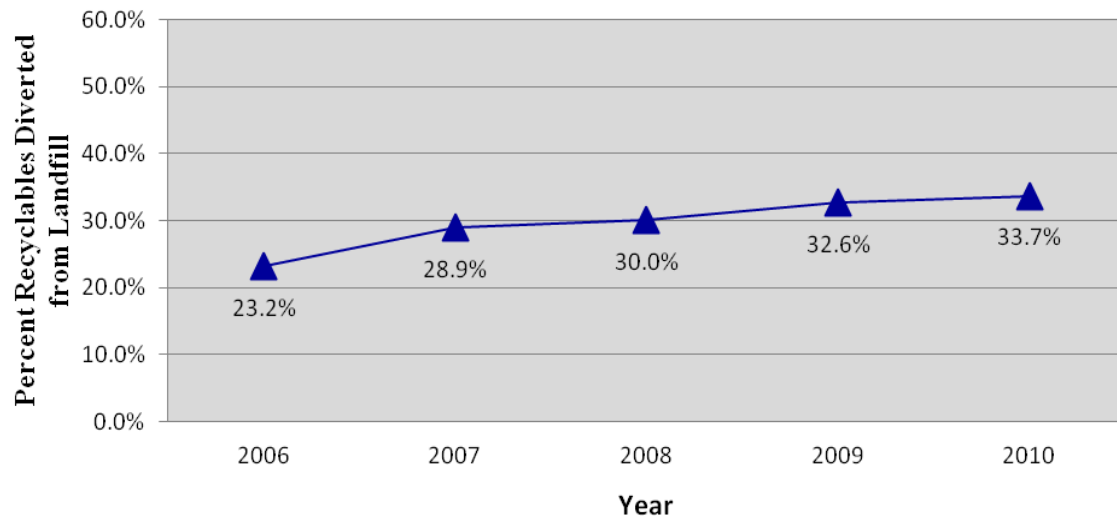
#### ***4.5 Status of the Recycling Goals***

The passage of Senate Bill 234 into law established diversion goals of 50% for MSW and 72% for all solid waste by 2015. The diversion rate of recyclables for CY2010 was 33.7% for the total Municipal Solid Waste stream. To reach the goal of 50% by 2015, this will require an average annual increase in recycling diversion of 3.2%. With continued yard waste bans on our landfills, universal recycling now implemented for all residences in Delaware, multi-family residence recycling beginning in 2013, and commercial recycling beginning in 2014, it is very possible that this goal will be exceeded.

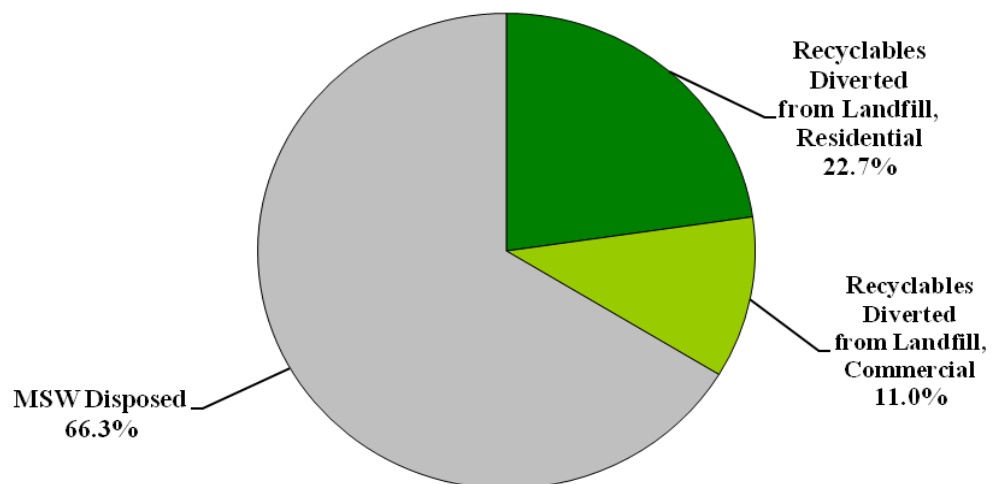
By maintaining a consistent methodology, a reasonably accurate and meaningful trend line analysis can be developed over a period of years. This will require continued analysis and reporting, but it will enable the accurate tracking of progress toward the state's goals.

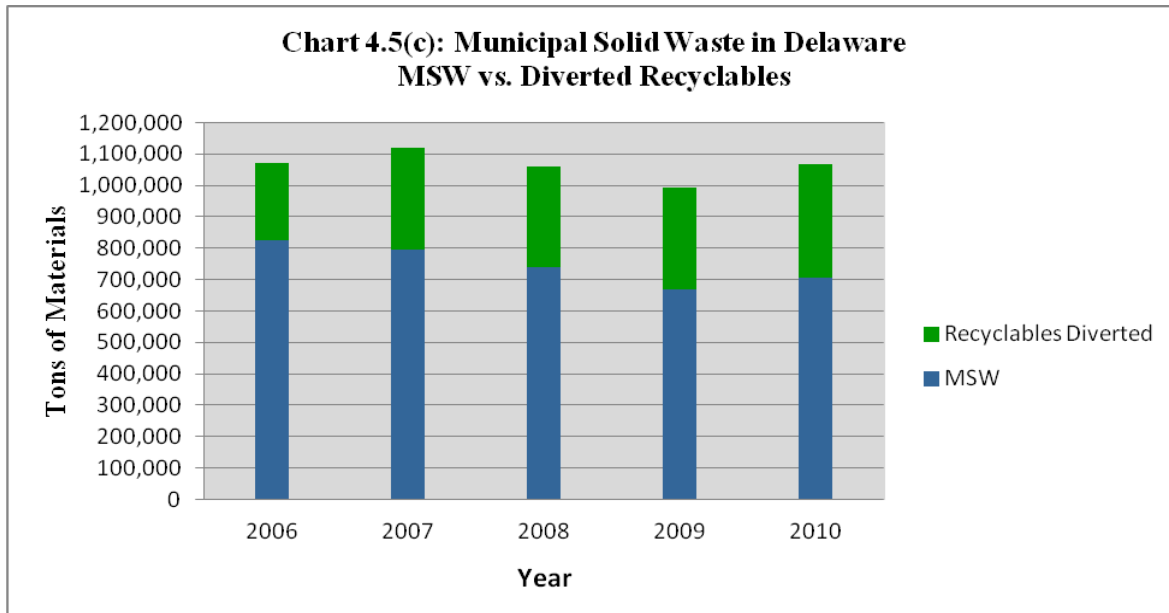
The RPAC has not yet established a methodology for collecting and analyzing data for the total waste stream. This is a very significant undertaking and the RPAC plans on approaching it with the same degree of thoughtfulness, thoroughness, and transparency employed for the development of the MSW methodology. A second statewide comprehensive waste characterization study is planned for CY2012. This study will allow us to further refine our measurements and methodology for MSW, but it will be requisite in order to develop the methodology and calculate the state's diversion of all solid wastes.

**Chart 4.5(a): Municipal Solid Waste in Delaware  
Percent Diversion of Recyclables**



**Chart 4.5(b): Disposition of Delaware MSW**







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## 5.0 *Recycling Grants and Loans Program*

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Senate Bill 234 establishes the Recycling Grants and Low Interest Loan Program (7 Del. C., §6054 and 7 Del. C., §6055). This program is designed to help implement

- (1) recyclables collection programs (especially residential programs); and
- (2) other recycling initiatives (especially the recycling of commercial waste).

DNREC is directed to commence the Recycling Grants and Low Interest Loan Program in calendar year 2011 and offer it at least annually until 2014. The RPAC has assisted DNREC in developing the Guidelines for the first cycle of the Program and will assist in developing or revising guidelines for future cycles.

The application deadline for the first cycle of the Program was January 24, 2011. Funding criteria for this round was focused on startup costs for single-stream, curbside recycling programs. It primarily funded recycling carts, collection trucks and related equipment, and outreach expenses. The next cycle of the Program is expected to be announced in the first half of 2012. More information can be found on the webpage:

[www.dnrec.delaware.gov/whs/awm/Pages/RecyclingGrants.aspx](http://www.dnrec.delaware.gov/whs/awm/Pages/RecyclingGrants.aspx).

**Table 5.0 - Entities that applied, were awarded, and accepted funding.**

<b>Applicant</b>	<b>Funding</b>
Bethany Beach	\$ 250,377.00
City of Dover	\$ 101,151.00
City of Lewes	\$ 118,830.00
City of New Castle	\$ 24,220.00
City of Newark	\$ 212,063.00
City of Rehoboth	\$ 40,187.00
City of Wilmington	\$ 657,320.00
Delaware City	\$ 29,130.00
DE Restaurant Assn	\$ 12,470.00
Delaware Sanitation	\$ 301,662.00
Econo Haul	\$ 983,075.00
Fenwick Island	\$ 10,920.00
First State Disposal	\$ 201,053.00
Hockessin Sanitation	\$ 101,831.00
Jay D C Enterprises	\$ 149,760.00
KRC Waste Mgt, Inc.	\$ 104,160.00
Moor Disposal Svcs	\$ 778,939.00
O'fig Sanitation	\$ 66,375.00
Palmatary's Sanitation	\$ 114,447.00
Town of Elsmere	\$ 94,622.00
Town of Middletown	\$ 306,000.00
Town of Smyrna	\$ 170,295.00
<b>Totals</b>	<b>\$ 4,828,887.00</b>

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## *6.0 DNREC Activities*

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DNREC's activities conducted in support of waste minimization and attaining the waste diversion goals included providing support to the RPAC, encouraging the recycling of yard waste, implementing universal recycling legislation, and conducting outreach and education.

### *6.1 Support to the RPAC*

In fulfillment of its responsibilities under Senate Bill 234, and previously under Executive Order No. 90, DNREC continues to work diligently to provide support to the RPAC. The tasks that DNREC carried out in this area included, but were not limited to:

- Making meeting arrangements for all RPAC meetings;
- Preparing and distributing agendas and minutes for all RPAC meetings;
- Publicizing the RPAC meetings, reports, and efforts;
- Coordinating the development of the Universal Recycling Grant and Low-Interest Loans Program;
- Participating in all Subcommittees including the Reporting and Measurement Subcommittee responsible for establishing recycling reporting requirements and an agreeable recycling measurement methodology for Delaware;
- Drafting and/or producing pertinent products or documents for RPAC meetings and Subcommittees; and
- Preparing the RPAC's Annual Report including printing and distribution.

### *6.4 Supporting the Diversion of Yard Waste*

The bulk of DNREC's yard waste diversion efforts have been the operations and maintenance of temporary community yard waste demonstration sites. The DART Mid-County site is located near Bear and has been open since mid-2007, the Polly Drummond Hill Road site is located near Newark and has been open since late-2007, and the Brandywine Hundred site was located North of Wilmington and opened early-2008. The sites were created for residents to bring yard waste from their own yards for free. The yard waste is periodically ground into mulch which is removed by a contractor, generating significant cost-savings to the Department. There is no dedicated funding source for these sites, however the General Assembly has directed DNREC to keep these sites open for another year. While these sites divert approximately 10,000 tons of material from entering the landfill, several other private alternatives exist that are available to the public and divert significantly more material.

Following direction from local legislators, DNREC permanently closed the Brandywine Hundred site on June 27, 2010. Since then, Holland Mulch (Edgemoor) has agreed to accept yard

waste from homeowners for free. Efforts are underway to privatize operations of the two remaining sites.

The enforcement of the Cherry Island Landfill yard waste ban has been in place for about three years and individuals and businesses have adjusted well. It is estimated that as much as 50,000 tons of yard waste are diverted from the Cherry Island Landfill each year following the implementation of the yard waste ban. Banning yard waste has effectively diverted a useful material from entering the landfill while fostering local jobs and businesses. Yard waste bans are now incorporated in permits for DSWA's central and southern landfills effective January 1, 2011. Essentially yard waste is banned from entering any of Delaware's landfills.

DNREC also continues to work with the University of Delaware Cooperative Extension, the Delaware Center for Horticulture, and a large variety of community groups to educate residents on composting and other alternatives. DNREC readily presents yard waste management information and options to community and interest groups and maintains a yard waste management website ([www.dnrec.delaware.gov/yardwaste](http://www.dnrec.delaware.gov/yardwaste)).

## ***6.2 Implementing Recycling Legislation***

Since the passage of Senate Bill 234, DNREC continues educational efforts while implementing the tasks required by the bill. DNREC has met with waste haulers, municipalities, and the DSWA to coordinate the transition into universal recycling. DNREC has also been in many discussions with retailers, distributors, manufacturers, consumers, and the Division of Revenue to facilitate the transition out of the beverage container deposit system, and has diligently worked to establish the Universal Recycling Grant and Low-Interest Loan Program. That Program oversaw approximately \$4.5 million in funding to 22 municipalities, waste haulers, and related entities in 2011. Three more cycles of the Program will come in the following years. Recycling measurement guidance has been developed by DNREC in conjunction with the RPAC. DNREC is also working with the RPAC to develop a report for the Governor and General Assembly with recommendations regarding the implementation of universal recycling in the commercial sector. Significant outreach, discussed in detail in the next section, has been conducted and will continue to be a focus. Much work remains, but DNREC certainly has invested significant staff time and resources to support and carry out the comprehensive recycling legislation that was Senate Bill 234.

## ***6.3 Public Education and Outreach***

DNREC conducted or participated in many activities to increase public awareness of recycling opportunities and benefits. DNREC distributed outreach materials and information at public events including the Delaware State Fair, Coast Day, school presentations, and community presentations. The outreach focused on the opportunities and benefits of recycling and waste reduction. As a result of these activities, tens of thousands of Delaware residents were educated on a variety of recycling issues.

DNREC has also provided technical assistance to countless individuals and organizations that have recycling related questions or need help with programs or ideas such as schools, not-for-profit organizations, and businesses. Hundreds of telephone calls were fielded by DNREC staff following implementation of many curbside recycling programs. DNREC also attended

many meetings to explain, and answer questions and concerns about, universal recycling. The vast majority of concerns were based upon misconceptions or a misunderstanding of the law. Concerns such as pricing or container size can be managed by speaking with waste haulers. Many folks have been able to receive a different sized container or cheaper pricing. These concerns emphasize the need for continued outreach.

**Table 6.3 – Recent DNREC Public Outreach Events and Meetings**

<b>Date</b>	<b>Meeting/Event (Location)</b>	<b>Time</b>	<b>Hosted By</b>
December 13, 2010	Grant Workshop (Dover)	10:00am	DNREC
January 6, 2011	Grant Workshop (Dover)	2:00pm	DNREC
February 22, 2011	Del. Restaurant Assn Symposium (Wilm.)	Morning	DRA
March 10, 2011	CCOBH Meeting (Wilmington)	Evening	CCOBH
March 22, 2011	Lewes Public Library (Lewes)	6:30pm	DNREC
March 23, 2011	Richardson & Robbins Building (Dover)	6:30pm	DNREC
March 28, 2011	Bear Library (Bear)	6:30pm	DNREC
March 29, 2011	Western Sussex Boys & Girls Club (Seaford)	6:30pm	DNREC
April 21, 2011	Wilmington Earth Day Event (Wilmington)	Mid-Day	Pshp. for the Del. Estuary
May 5, 2011	NARFE Meeting (Kent County)	12:00pm	NARFE
May 9, 2011	Appoquinimink Library (Middletown)	6:30pm	DNREC
May 28, 2011	Horseshoe Crab Festival (Milton)	Daytime	Milton/Prime Hook NWR
June 7, 2011	Price Community Center (Harrington)	6:30pm	DNREC
June 15, 2011	Brandywine Hundred Library (Wilm.)	6:30pm	DNREC
July 9, 2011	Civic Association (Roxana)	Evening	Civic Assn.
July 21-31, 2011	Delaware State Fair (Harrington)	Daytime	Delaware State Fair
July 28, 2011	Civic Association Meeting (Wilmington)	7:00pm	HHCA
August 3, 2011	The Independence School (Newark)	7:00pm	Rep. Miro/DNREC
August 27, 2011	Millville Fire Hall (Millville)	6:30pm	Rep. Hocker/Sen. Bunting
September 19, 2011	Hockessin Fire Hall (Hockessin)	6:30pm	GHADA/Rep. Manolakos
October 2, 2011	Coast Day (Lewes)	11 - 4	UD - Lewes Campus

With the implementation of universal recycling, DNREC has worked with RPAC and the DSWA on ways to reach the audience of practically every Delawarean. So far DNREC has accomplished the following media efforts (see Appendix G for examples):

- Worked with DSWA to produce radio ads on Clear Channel & Delmarva Broadcasting stations (late March)
- Created a new website [www.recycling.delaware.gov](http://www.recycling.delaware.gov) (June)
- Created a new Facebook page [www.facebook.com/delawarerecycles](http://www.facebook.com/delawarerecycles) (June)
- Produced ongoing radio ads on Delmarva Broadcasting stations since mid-Summer
- Produced 11 billboard locations statewide (mid-August through mid-November)
- Worked with the Division of Aging to produce full page ad in Lifestyles 55 (mid-September)
- Worked with the Division of Aging to produce flyer for posting at senior centers statewide (August)
- Produced a 30 second TV commercial to soon air on WMDT stations
- Produced a How To Recycle Guide with DSWA (available online and in limited print)

DNREC continues to improve and augment the recycling information resources available on its website and in its handouts. All of RPAC's Annual Reports, recent meeting minutes and agendas, several studies, information on the universal recycling legislation, and other information on recycling and composting can be found on the DNREC recycling website ([www.awm.delaware.gov/Recycling/Pages/Recycling.aspx](http://www.awm.delaware.gov/Recycling/Pages/Recycling.aspx)) and the DNREC-maintained RPAC website ([www.awm.delaware.gov/Info/Pages/RPAC.aspx](http://www.awm.delaware.gov/Info/Pages/RPAC.aspx)). DNREC also has developed and updated critically important websites dedicated to yard waste ([www.dnrec.delaware.gov/yardwaste](http://www.dnrec.delaware.gov/yardwaste)) and the bottle bill transition ([www.awm.delaware.gov/Recycling/Pages/BottleBill.aspx](http://www.awm.delaware.gov/Recycling/Pages/BottleBill.aspx)).

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## *7.0 DSWA Activities*

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### ***7.1 RECYCLE DELAWARE***

#### Drop Off Center Program

The DSWA continues to operate over 180 recycling drop off centers conveniently located throughout Delaware. The drop off center program continues to be one of the most successful and cost-effective voluntary drop-off programs in the nation. Delaware residents can drop off single stream recycling as well as used motor oil, oil filters, household batteries, corrugated cardboard and textiles. In FY10, approximately 18,000 tons of recyclables were received at the drop off centers and 11,488 tons of recyclables were collected curbside. The materials collected are taken to the Delaware Recycling Center (DRC) and Milford Recycling Center, where they are prepared for market.

#### Electronic Goods Recycling Program

In FY10, 2,015 tons of electronic goods were recycled through DSWA's electronic goods collection program. There are currently 12 electronic good drop-off locations throughout Delaware. DSWA provides free collection of electronic goods to government agencies and schools each month.

#### Household Hazardous Waste (HHW) Program

In FY10, DSWA held eight (8) HHW events throughout the state. Over 3,300 vehicles dropped off household hazardous waste and electronic goods. The total amount of HHW collected at all events totaled 190,066 pounds.

#### Oil Filter and Waste Oil Recycling Programs

In FY10, DSWA collected 402 tons of oil filters from over 40 RECYCLE DELAWARE centers. On average, 1.4 million oil filters are sold annually in Delaware; DSWA collects over 1.2 million of those oil filters.

### ***6.2 Universal Recycling Activities***

The Governor's Universal Recycling Bill was signed into law June 8, 2010. DSWA believes the Universal Recycling Law will significantly increase the amount of recycling participation in Delaware by requiring the municipalities and the private trash haulers to provide curbside recycling service to all of their customers by the mandated date of September 15, 2011. While the Universal Recycling Law did put an end to the DSWA curbside recycling program, DSWA still has an important role to play in recycling activities in Delaware. DSWA paved the way for the Universal Recycling by building the DSWA Curbside Program to 50,000 participating households statewide. Growing such a large program proved curbside recycling could be successful and created a curbside recycling culture to Delaware residents. DSWA gave out over

70,000 recycling carts and 20,000 yard waste carts, to municipalities and private haulers, which played a significant role in keeping start up cost down for residents in those communities.

### ***6.3 Public Education and Outreach***

DSWA strongly believes in educating Delaware residents to increase awareness and to establish an interest in protecting the environment. DSWA educates residents about their programs through school and community presentations, attending special events, and developing educational books and program brochures. In 2010, DSWA attended over 140 school and community presentations reaching over 15,500 residents. DSWA distributed educational materials covering multiple topics for children of all ages with emphasis on recycling and composting.

In 2010, DSWA placed an important emphasis on its public outreach effort by attending over 25 different events throughout the state, which reached over 280,000 Delaware residents. DSWA attended events such as Delaware's Great Green Expo in Wilmington, the Delaware State Fair in Harrington, University of Delaware's Coast Day in Lewes, as well as hosting the Annual DSWA Earth Day Event in Felton. DSWA attends events like these to promote environmental awareness throughout the state as well as educate the public on programs and facilities that DSWA provides for residents.

DSWA encourages citizens of Delaware to contact them if they are in need of environmental information concerning any DSWA program or facility. DSWA provides a Citizens' Response Line, (800-404-7080) which answers approximately 225 calls a day from residents. In addition, DSWA's website ([www.dswa.com](http://www.dswa.com)) provides even more information for Delaware residents. These resources provide valuable information and keep the personal touch that has helped to establish DSWA as a leader in the environmental community.



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## 8.0 *Recommendations*

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The RPAC's recommendations to Governor Markell and the General Assembly include steps they can take to increase the recyclables diversion rate:

1. **Support recycling outreach and educational efforts in Delaware.** There is a need to help Delawareans understand how to recycle, opportunities for various materials, and the benefits of recycling from both the residential and commercial sectors.
2. **Implement a comprehensive recycling program for all state offices and schools.** Many executive branch offices seem out of compliance with Executive Order 18. There should be provisions for legislative branch offices, judicial branch offices, and schools to start recycling programs.
3. **Support the continued implementation of Universal Recycling as required by Senate Bill 234.**
4. **Continue to support the Division of Revenue efforts to maximize bottle recycling fee revenues.**

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## *Appendix A. Senate Bill 234*

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SPONSOR: Sen. McBride & Rep. Mulrooney, Sens. Blevins, Bunting,  
Cloutier, Katz, McDowell, Simpson, Peterson, Bushweller,  
& Sorenson, Reps. Keeley, Kovach, Kowalko, Miro,  
Ramone, Schooley, Viola, D.P. Williams, Jaques, & D.E.  
Williams

DELAWARE STATE SENATE

145th GENERAL ASSEMBLY

SENATE BILL NO. 234  
AS AMENDED BY  
SENATE AMENDMENT NOS. 1 & 3

AN ACT TO AMEND TITLES 7 AND 30 OF THE DELAWARE CODE RELATING TO RECYCLING AND  
BEVERAGE CONTAINERS.

1 WHEREAS, recycling conserves valuable natural resources, energy, landfill capacity, landfill disposal costs,  
2 greenhouse gas emissions and litter, creates jobs and promotes a conservation ethic; and

3 WHEREAS, Delaware's recycling rate is below that of the nation and surrounding states; and

4 WHEREAS, tipping fees at Delaware Solid Waste Authority landfills are scheduled to increase July 1, 2010 as a  
5 result of the need for new landfill space and it is in the interest of all Delawareans to minimize the need for future landfill  
6 capacity and the associated costs by reducing the flow of waste to landfills;

7 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE (Three-fifths of all members  
8 elected to each house thereof concurring therein):

9 Section 1. Amend "Subchapter III. Beverage Containers" in Chapter 60 of Title 7 by striking it in its entirety and  
10 substituting in lieu thereof the following:

11 "Subchapter III. Solid Waste Recycling

12 §6051. Findings; intent.

13 In furtherance of the determination long established in §6450 of Title 7 that "the reduction of solid waste disposal  
14 and recovery of usable materials from solid waste are matters of extreme importance in minimizing the environmental  
15 impact of solid waste disposal through landfilling" and that it "is in the public interest to develop a comprehensive  
16 statewide system of recycling and resource recovery which maximizes the quantity of solid waste materials which can be

recovered, reused, or converted to beneficial use” the General Assembly hereby makes the following findings and declares the following intent with respect to the establishment of this Subchapter. In order to establish a comprehensive statewide system of recycling, wherein recycling is maximized and the necessary economies of scale are realized, every residence and business must have access to recycling programs that are both convenient and cost effective. It is the intent of the General Assembly, in full recognition that the establishment of a comprehensive statewide recycling program has long been sought, that said program shall be accomplished by modification of the existing beverage container law and the establishment of Universal Recycling inclusive of the prescribed recycling programs, requirements and goals that follow. As such, liberal interpretation in favor of accomplishing the stated goals and objectives shall be exercised.

§6052. Definitions.

Notwithstanding any definitions in Chapters 60 or 64 of Title 7 to the contrary, the following words and phrases shall have the meaning ascribed to them in this Subchapter unless the context clearly indicates otherwise.

- (a) ‘Authority’ means the Delaware Solid Waste Authority.
- (b) ‘Beverage’ means any mineral waters (but not including naturally sparkling mineral waters), soda waters or any other carbonated beverage not containing alcohol that is commonly known as a “soft drink” and any beer, ale or other malt beverage containing alcohol.
- (c) ‘Beverage container’ means any airtight non-aluminous container containing less than 2 quarts of a beverage under pressure of carbonation.
- (d) ‘Dealer’ means any person who engages in the sale of beverages in beverage containers to a consumer and shall include groups of retailers or retail chains.
- (e) ‘Multi-family’ means 3 or more attached structures, such as condominiums or apartments, generally intended for occupancy by individuals or families and where centralized community trash disposal and collection services are typically provided..
- (f) ‘Municipal Solid Waste’ means wastes such as durable goods, nondurable goods, containers and packaging, food scraps, organic yard waste and miscellaneous inorganic waste from residential (i.e. household), commercial, institutional and industrial sources such as appliances, automobile tires, old newspapers, clothing, disposal tableware, office and classroom paper, wood pallets, and cafeteria wastes. Municipal solid waste does not include solid wastes from other sources such as construction and demolition debris, auto bodies, municipal sludges, combustion ash and industrial process wastes.
- (g) ‘On-premises sales’ means sales transactions in which beverages are purchased by a consumer for immediate consumption within the area under the control of the dealer.

- (h) ‘Organic yard waste’ means plant material resulting from lawn maintenance and other horticultural gardening and landscaping activities and includes grass, leaves, prunings, brush, shrubs, garden material, Christmas trees and tree limbs up to 4 inches in diameter.
- (i) ‘Recyclable Material’ or ‘Recyclables’ means any material or group of materials that can be collected and sold or used for recycling.
- (j) ‘Recycling’ means the process by which solid wastes are separated for use as raw materials, products or replacement of products, including the reuse of organic yard waste, but does not include the incineration of materials for energy.
- (k) ‘Residential Waste’ means the solid waste generated in occupied single-family and multi-family structures. Also referred to as ‘Household Waste.’
- (l) ‘Single Stream’ means a system in which all fibers (including but not limited to paper, cardboard, etc.) and containers (including but not limited to plastic, glass and metal) are commingled for collection into one container instead of being sorted into separate commodities and multiple containers.
- (m) ‘Single-family’ means either a detached structure (i.e. a house) surrounded by open space or attached structures, such as town or row homes, generally intended for occupancy by a family and where individual trash collection services are typically provided for each structure.
- (n) ‘Source Separated’ means recyclable materials, including single stream recyclables, are segregated at the point of generation and kept apart from the waste stream by the generator thereof for the purpose of collection and recycling.

§6053. Universal Recycling.

The goal of Universal Recycling is to create an economy of scale wherein a dramatic increase in Delaware’s diversion of recyclables occurs in the most cost effective manner achievable while simultaneously creating job opportunities and significantly reducing Delaware’s rate of waste disposal.

Universal Recycling shall be implemented in accordance with the following provisions:

(a) Effective no later than September 15, 2011, the Authority shall cease providing curbside recycling services, including yard waste collection, and all persons providing solid waste collection services in the State of Delaware shall also provide:

(1) Single stream curbside recycling collection services to all of their Delaware single-family residential customers, including delivery of a container for the purpose of storage and collection of recyclables that is adequately sized for the customers use such that recycling is encouraged and disposal of recyclables is

discouraged; and the recyclables collection service shall be provided at a frequency of not less than once every other week.

(2) Source separated recycling collection services to dealers who provide on-premise sales, including delivery of a recyclables container that is adequately sized for the premise being served and a frequency of recyclables collection that shall preclude the recycling containers from overflowing and otherwise causing a nuisance.

(3) All single-family residential and on-premise sales customers with a single charge for the collection of waste and recyclables on their “waste services” bill that is inclusive of the combined waste and recycling collection service costs. Local governments that do not presently bill separately for the costs of waste collection are exempt from this requirement.

(4) Notification to all customers that the single stream recycling service will be provided and instructions on participation prior to September 15, 2011.

(b) Effective no later than January 1, 2013, all persons providing solid waste collection services in the State of Delaware shall provide:

(1) Single stream recycling collection services to all of their Delaware multi-family residential customers, including providing the multi-family complex with an appropriately sized and centrally located recyclables collection container(s) for the complex being served and ideally in the same proximity as the complex’s waste disposal containers. Local governments may require multi-family complex owners to provide their own recyclable collection containers consistent with local requirements.

(2) Notification to the multi-family complex management that the single stream recycling service, including instructions on participation, will be provided.

(3) A frequency of recyclables collection that shall preclude the recycling containers from overflowing and otherwise causing a nuisance.

(4) Written justification to the Department for not providing multi-family recycling collection services where the physical constraints of the site prevent the placement of both trash and recycling containers. Exclusion from multi-family recycling is subject to Department review and approval.

(c) Owners of multi-family complexes must, at least once per calendar year, provide residents with instructions on participating in the complex’s recycling program.

(d) The Recycling Public Advisory Council shall issue a report to the Governor and the General Assembly no later than November 1, 2012 with recommendations regarding the implementation of Universal Recycling in the

commercial sector. It is the express requirement of this legislation that Universal Recycling be adopted by the commercial sector and that all commercial businesses actively participate in a comprehensive recycling program no later than January 1, 2014.

(e) Persons who choose to transport and deliver the solid waste and recyclables they generated on their own property for proper disposal or to a recycling facility of their choice respectively shall not be affected by this subchapter and may continue in this practice.

(f) Nothing shall impair the ownership of recyclable materials by the generator unless and until such materials are placed at curbside or similar location for collection and recycling, and nothing in this chapter shall be construed to prevent any person from collecting, transporting, processing, and marketing recyclable materials in competition with other persons in the same business, including the Authority, provided that the requirements of this Subchapter are satisfied.

(g) Persons engaging in the collection, transportation, processing, or marketing of source separated recyclable materials shall conduct such activities in a manner that the source separated recyclable materials enter the marketplace and are otherwise not disposed via a landfill or by incineration.

§6054. Delaware Recycling Fund.

(a) There shall be established in the State Treasury and in the accounting system of the State a special fund to be known as the Delaware Recycling Fund ("the Fund").

(b) The following revenue shall be deposited into the Fund:

(1) As specified in 30 Del. C. §2912, the Recycling Fee on the sale of beverage containers;

(2) On the last day of each month, the State Treasurer shall credit the Fund with interest on the average balance in the Fund for the preceding month. The interest to be paid to the Fund shall be that proportionate share, during such preceding month, of interest to the State as the Fund's and the State's average balance is to the total State's average balance;

(3) Any other revenue appropriated or transferred to the account by the General Assembly; and

(4) Repayment of low interest loans.

(c) The Fund shall be used by the Secretary for the exclusive purpose of funding specific activities designed to enhance the state's recycling rate and the diversion of recyclables that would otherwise be land disposed. The Fund may be expended only:

- (1) To fund the Recycling Grants and Low Interest Loan Program referenced in §6055 of this subchapter. Annual funding for the Recycling Grants and Low Interest Loan Program shall be dependent on revenue generated by the Fund;
- (2) To pay the limited and reasonable cost of the Department and the Recycling Public Advisory Council to study, evaluate and report on the status and potential for recycling various components of the solid waste stream, with emphasis on those aspects of municipal solid waste and commercial waste necessary to achieve the diversion goals established in §6056 of this subchapter;
- (3) To pay the Department's limited and reasonable costs for administering this Subchapter. No greater than 10% of the revenue deposited into the Fund shall be used by the Department for administering this subchapter without approval of the Joint Finance Committee and shall include but not be limited to: promoting the Recycling Grants and Low Interest Loan Program, Universal Recycling, zero waste principles, development of reporting requirements and related recycling initiatives; and
- (4) To pay the Division of Revenue for the costs of administering 30 Del. C. §2912.
- (d) The Department shall commence the Recycling Grants and Low Interest Loan Program in calendar year 2011 and offer the Program at least annually thereafter until 2014.
- (e) The revenue from the Fund and its disbursement via the Recycling Grants and Low Interest Loan Program shall be subject to audit and the recipient of any such funding shall agree to the audit and cooperate with the auditor as a condition of receiving funding.
- (f) No expenditures shall be made from the fund for any grants or loans pursuant to §6055 without the approval by the Controller General and Director of the Office of Management and Budget of a plan for revenues and expenditures for the period between December 1, 2010 and September 15, 2011.
- §6055. Recycling Grants and Low Interest Loan Program.
- (a) There is hereby established a competitive Recycling Grants and Low Interest Loan Program (the "Program") to assist persons engaged in the business of collecting, transporting, processing, or marketing recyclable materials with the implementation of:
- (1) source separated recyclables collection and processing programs with emphasis on start-up costs for residential single-stream recyclables collection; and
- (2) start-up costs for initiatives which result in the recycling of solid waste materials which would otherwise be land disposed, with emphasis on commercial waste.

The Program shall be administered by the Department, and monies from the Program shall be paid based on approved grant and loan requests. The Department shall be entitled to disburse grant and loan monies for the documented costs of implementing the collection or processing of recyclable materials. The Department shall be entitled to adopt guidelines and procedures for administering the Program and determining eligibility for receipt of funding pursuant to §6054 of this Chapter. Such procedures shall include provisions for repayment of loans to the Department and may include a rebate program for costs based on, including but not limited to, a prorated share of household customers in a recycling program that may have been in existence prior to creation of this law. The Department shall solicit the commentary of the grant eligible stakeholders during development of the grant guidelines and procedures. The Program shall be funded by monies made available under the provisions of §6054.

(b) The Recycling Public Advisory Council, after the receipt of comments by grant and loan eligible stakeholders, shall make recommendations annually to the Department regarding the programmatic priorities for awarding Program funds under this Subchapter. The Recycling Public Advisory Council shall provide recommendations regarding the categories and priorities for grants and loans that reflect an informed and representative view of the most urgent and important areas where grant funding will provide the most benefit to the State of Delaware balancing current needs with those of future generations.

(c) The Department shall review all grant and loan applications and award grants and loans taking into consideration the Recycling Public Advisory Council recommendations. In those cases where the Department's funding decisions differ significantly from the Recycling Public Advisory Council recommendations, the Department shall report to the Recycling Public Advisory Council the justification for such differences.

(d) Any person providing solid waste collection services that is a recipient of a grant or low interest loan from the Delaware Recycling Fund shall not, as a result of implementation of Universal Recycling, increase rates charged for solid waste collection between such time as they make application for the grant until March 15, 2013.

#### §6056. Adopting Diversion Goals and Reporting Requirements

It is the intent of the General Assembly that implementation of the requirements of this Subchapter reduce the amount of non-hazardous solid waste currently deposited in landfills in this State by maximizing the recovery of recyclable materials. In order to do so, it will be necessary for the State of Delaware to embrace the Zero Waste Principles of designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not incinerate or bury them. In that spirit, the following Interim Waste Diversion Goals are established with the understanding that as more data and information regarding the implementation of Universal Recycling become available, the goals leading up to



January 1, 2020 may be modified by the Department as circumstances dictate; however, the January 1, 2020 goals may not be modified without the approval of the General Assembly:

Table 1. Interim Zero Waste Diversion Goals <sup>1</sup>		
Date by which goal is to be achieved	Solid Waste Diverted from disposal	Municipal Solid Waste Diverted from disposal
January 1, 2015	72%	50%
January 1, 2020	85%	60%
<sup>1</sup> By weight		

(a) In order to effectively measure the diversion rates being achieved, all persons, including persons who collect, process or market recyclables, with the exception of those specified in §6053(e), must report to the Department on a calendar year basis, no later than February 15th of the following year, the type and quantity of recyclables managed, the method of recycling collection used (single or multiple streams), and the location of the recycling facilities used pursuant to reporting guidance developed by the Department and the Recycling Public Advisory Council. Said reporting guidance shall be developed pursuant to the solicitation of stakeholders responsible for reporting, shall take into account the need for confidentiality of the information reported and shall be finalized no later than December 1, 2010. The first recycling report shall cover calendar year 2011 and shall be due no later than February 15, 2012.

(b) In order to ensure that the waste diversion goals specified in Table 1 above are achieved by the dates specified, the Department, in cooperation with the Recycling Public Advisory Council, shall assess progress and recommend to the Governor and General Assembly any additional mechanisms necessary including but not limited to: which waste streams must be diverted from disposal, the parties responsible for ensuring the identified waste streams are diverted from disposal, the date by which the diverted waste streams must be diverted from disposal, implementation of Pay As You Throw, Extended Producer Responsibility, incentive based recycling, waste bans and related requirements. Such assessment shall be completed, inclusive of any draft legislation determined necessary, and submitted to the General Assembly no later than November 1, 2014 as part of the RPAC annual report.

#### §6057. Beverage Containers – Findings, intent, prohibitions

(a) The General Assembly hereby finds that beverage containers are a valuable recyclable material and a major source of non-degradable litter in this State and that the collection and disposal of this litter and solid waste constitutes a great financial burden for the citizens of this State; and that, in addition to this unnecessary expenditure of tax moneys, such litter unreasonably interferes with the enjoyment of life and property by our citizens; and that the practice of littering and disposal of a recyclable material is not

- 220 compatible with previously adopted policies of the State in regard to proper use and protection of our  
221 natural resources.
- 222 (b) It is the intent of the General Assembly to increase recycling significantly, inclusive of beverage  
223 containers, thereby conserving valuable natural resources, removing the blight of litter on the landscape  
224 of the State caused by the disposal of beverage containers and other packaging, and reduce the increasing  
225 costs of litter collection and disposal.
- 226 (c) Prohibitions – No beverage shall be sold or offered for sale in this State:
- 227 1. In containers connected to each other with plastic rings or similar devices which are not classified by  
228 the Department as biodegradable, photodegradable or recyclable.
- 229 2. In a beverage container which is not recyclable or refillable.
- 230 §6058. Establishment, composition and responsibility of the Recycling Public Advisory Council
- 231 (a) There is hereby established a Recycling Public Advisory Council (the “Council”). The Council shall be  
232 composed of sixteen (16) members who shall be appointed by the Governor as follows:
- 233 1. One member from the Department;
- 234 2. One member from the Authority;
- 235 3. One member representing county governments, with such member being recommended by the  
236 Delaware Association of Counties;
- 237 4. One member representing municipal governments, with such member being recommended by  
238 the Delaware League of Local Governments;
- 239 5. One member representing the recycling industry;
- 240 6. One member representing the waste hauling industry;
- 241 7. Two members, one representing the Soft Drink Industry and one representing the Alcohol  
242 Beverage Industry representing the beverage industry;
- 243 8. One member representing the Delaware State Chamber of Commerce;
- 244 9. One member representing the Delaware Restaurant industry; and
- 245 10. Five members representing community-based or public-interest groups.
- 246 11. One member representing the Delaware Food Industry Council.
- 247 (b) Members of the Council, except for those appointed pursuant to subparagraphs 1 and 2 of subsection (a)  
248 above, shall serve for terms up to three (3) years and may not serve more than two consecutive terms but may  
249 again serve after one year off of the Council. Members shall be appointed for staggered terms so that no more

than five (5) appointments shall expire in any one calendar year. Members may be reimbursed for travel to and from meetings. The Governor shall appoint a Chairman from among the sixteen members. Actions of the Council shall be approved by a majority vote of the Council. At least nine (9) members of the Council shall constitute a quorum. The Council may adopt by-laws as it deems appropriate to serve the purposes of this Subchapter.

(c) The Recycling Public Advisory Council shall:

1. Advise the Department and the Authority on all aspects of recycling;
2. Advise the Department in developing criteria for the Recycling Grants and Low Interest Loan Program and selection of applications as well as provide an annual assessment of the revenue needed to satisfy the grant requirements;
3. Maintain, in conjunction with the Department and the Authority, a methodology for measuring recycling rates;
4. Provide advice and recommendations regarding the recycling outreach and education programs conducted by the Authority and/or the Department;
5. Report to the Governor and the General Assembly annually by November 1 of each year on the status of recycling activities in Delaware. Said report shall include, but not be limited to the following:
  - a. Status of attainment of the recycling goals specified in 7 Del. C. §6056;
  - b. An accounting of the recycling grants and loan program and any recommendations for future funding of the grants and loan program;
  - c. An assessment of the activities of both the Department and the Authority in achieving the recycling goals specified in 7 Del. C. §6056;
  - d. An objective, auditable accounting of recycling rates for total solid waste, municipal solid waste, and residential solid waste;
  - e. Such other recommendations as the Council shall deem appropriate; and
  - f. Use the definitions of “recycling” and “municipal solid waste” as stated by the United States Environmental Protection Agency in its document EPA530-R-97-011 dated September 1997. The Council shall be able to adopt changes to these definitions.

(d) The Department, in concert with the Authority and the Council, shall:

1. Monitor the State’s recycling initiatives and measure Delaware’s achievements toward attainment of the recycling goals specified in 7 Del. C. §6056;

2. Design and implement public educational efforts aimed at increasing public awareness of recycling opportunities;
3. Provide technical assistance to local entities to assist them in increasing their recycling rates; and
4. Provide administrative support to the Council.

§6059. Enforcement, civil and administrative penalties

(a) Whoever violates this Subchapter, or any rule or regulation promulgated there under, or any order of the Secretary, shall:

1. For the first conviction, be fined not less than \$100 nor more than \$500 for each day of violation;
2. For each subsequent conviction for the same offense within a 10 year period, be fined not less than \$500 nor more than \$1,500 for each day of violation;
3. In his or her discretion, the Secretary may endeavor by conciliation to obtain compliance with all requirements of this Subchapter. Conciliation shall be giving written notice to the responsible party (i) specifying the complaint, (ii) proposing a reasonable time for its correction, (iii) advising that a hearing on the complaint may be had if requested by a date stated in the notice, and (iv) notifying that a proposed correction date will be ordered unless a hearing is requested. If no hearing is requested on or before the date stated in the notice, the Secretary may order that the correction be fully implemented by the proposed date or may, on his or her own initiative, convene a hearing, in which the Secretary shall publicly hear and consider any relevant submission from the responsible party as provided in § 6006 of this Title.

(b) Any person whose interest is substantially affected by any action of the Secretary may appeal to the Environmental Appeals Board, in accordance with §6008 of this Title."

Section 2. Amend § 6451, Title 7 of the Delaware Code, by inserting therein the following new paragraph:

“(6) ‘Organic yard waste’ means plant material resulting from lawn maintenance and other horticultural gardening and landscaping activities and includes grass, leaves, prunings, brush, shrubs, garden material, Christmas trees and tree limbs up to 4 inches in diameter.”.

Section 3. Amend § 6452, Title 7 of the Delaware Code by inserting in line 2 of paragraph (8) between the words “environment” and “for” the following, “including but not limited to used oil & filters, batteries, household hazardous wastes, electronic wastes, etc., as long as economically sustainable in the judgment of the Authority” , by striking the word “and” at the end of paragraph (9) thereof; by striking the period as it appears at the end of paragraph (10) thereof and substituting in lieu thereof a semi-colon; and by inserting therein the following new subsections:

“(11) The implementation of a source separated recycling system that balances the need for drop-off recycling centers with public and private sector implementation and expansion of curbside recycling programs except where a municipal government implements curbside recycling within its jurisdiction, the Authority may, after consultation with the local municipality, remove the drop off sites located within the same jurisdiction with the goal of maintaining at least one existing drop-off recycling center in each municipality until January 1, 2014; and

(12) Providing at no cost to those persons required to provide curbside recycling services pursuant to §6053 of Title 7 the Authority’s unneeded wheeled recycling carts on the basis determined by the Authority for the purpose of minimizing the costs associated with the implementation of Universal Recycling when the Authority ceases providing curbside recycling services in accordance with §6053(a) of Title 7.

Section 4. Amend Chapter 64, Title 7 of the Delaware Code, by striking §6454 thereof in its entirety and by substituting in lieu thereof the following:

“§6454. Recycling Centers.

(a) Implementation of efficient and cost-effective recycling programs will require that Delaware have access to facilities capable of processing source separated recyclables. Where the private sector has developed extensive recyclables processing capability and where unique programs that provide incentives to the general public to recycle that are not available to Delaware residents, the Department and the Authority shall encourage and work with the private sector to establish private facilities for recyclables and recycling incentive programs in Delaware. The Authority shall accept recyclables from municipalities and non-municipal persons at no cost under such contractual terms and conditions as mutually agreed. Additional materials may be accepted at the source separated recycling center subject to the approval of the Authority. The Authority shall receive recyclable materials for transfer to the processing facility at locations designated by the Authority. It shall be the responsibility of the Authority to ensure that processing and/or transfer facilities for managing source separated collected recyclables are in operation in each County. It shall also be the responsibility of the Authority to transport or arrange for the transport of source separated recyclables from the Authority’s transfer stations or landfills to a processing facility.”.

Section 5. Amend Chapter 64, Title 7 of the Delaware Code, by striking § 6455 thereof in its entirety and substituting in lieu thereof the following:

“§6455. Public Education and Promotion of Recycling, Composting and other Waste Reduction Programs.

The Authority, in cooperation and consultation with the Department, shall initiate and conduct public outreach and education programs on the cessation of its curbside recycling program and modification to its drop off and organic yard waste programs, as well as continuing education on the purposes and value of source separated recycling and resource recovery. The intent of these educational programs shall be to maximize the diversion and recovery of recyclable materials and organic yard waste, whether it was generated by the commercial or residential sector. Such program may be conducted in conjunction with similar efforts of private industry, municipalities, public interest groups, the Department and the Recycling Public Advisory Council. The program may include the use of public advertising."

Section 6. Amend Section 2909(j) of Chapter 29 of Title 30 of the Delaware Code by deleting the word "and" between the numerals "2905" and "2906" and substituting therefore a comma ",", immediately after the numerals 2905 and by inserting immediately after the numerals "2906" and before the first occurrence of the word "of" the word and numerals "and 2912".

Section 7. Amend Chapter 29 of Title 30 of the Delaware Code by adding a new Section 2912 thereto as follows:  
"§ 2912. Beverage container retailer license requirement; license fee; Recycling Fee on beverage container sales.

(a) In addition to any license required under § 2304, § 2905, § 2906 or § 2908 of this title, any person desiring to engage in business in this State as a retailer to sell beverages in beverage containers shall obtain a registration upon making application to the Division of Revenue at no additional cost.

(b) For taxable periods beginning after November 30, 2010 and at such time as the Delaware Recycling Fund reaches a cumulative total of \$22,000,000 or ending December 1, 2014, whichever comes first, in addition to the registration required by subsection (a) of this section, every retailer of beverages in beverage containers, excluding on-premise sales, shall pay a Recycling Fee at the rate of \$0.04 per beverage container sold at retail during any month. Such fee shall be due on the twentieth day of the following month. The monthly returns shall be accompanied by a certified statement on such forms as the Department of Finance shall require in computing the fee due. Each retailer of beverages in beverage containers may list, as a separate line item on an invoice, the amount of the fees due under this subsection.

(c) As used in this section:

(i) The term 'retailer' shall have the meaning ascribed to that term in § 2901(8) of this title and shall include persons licensed under § 2304, § 2905, § 2906 or § 2908 of this title.

(ii) The term 'beverage' shall mean any mineral waters (but not including naturally sparkling mineral waters), soda waters or any other carbonated beverage not containing alcohol that is commonly known as a "soft drink" and any beer, ale or other malt beverage containing alcohol.

(iii) The term 'beverage container' shall mean any airtight nonaluminous container containing less than 2 quarts of a beverage under pressure of carbonation.

(d) The fees provided by this section shall be remitted to the Division of Revenue on forms issued by the Director of Revenue and subject to such regulations and requirements as shall be prescribed by the Director of Revenue. The Director of Revenue shall deposit the additional fee provided in this section to the credit of the special fund described in §6054 of Title 7. The Division of Revenue shall enter into an agreement with the Department of Natural Resources and Environment Control authorizing the Division of Revenue to charge such fund an amount reasonably determined by the Division of Revenue to be the cost of administering the fees described in this section."

This section shall sunset December 1, 2014.

Section 8. This Act shall become effective on December 1, 2010.

Section 9. Post-Effective Date Refund Procedures.

(a) From December 1, 2010 until January 31, 2011, a dealer shall accept from a consumer any empty beverage container of the kind, size and brand sold by the dealer, and pays the consumer the refund on the appropriately labeled returnable beverage container. A dealer may refuse to refund deposits on beverage containers which are broken, or unclean, or not empty. Such dealer may refuse to accept beverage containers from any person who attempts to return 120 or more containers at the same time, or within a 1-week period. On and after February 1, 2011, no dealer shall have any liability to or with respect to any consumer that relates to the deposit on any beverage container.

(b) From December 1, 2010 until February 28, 2011, a dealer upon redeeming beverage containers shall be reimbursed by the manufacturer or distributor of such beverage containers in an amount which is at least 20 percent of the deposit returned to the consumer in addition to the refund. On and after March 1, 2011, no manufacturer or distributor shall have any liability to or with respect to any dealer or consumer that relates to the deposit on any beverage container.

(c) For purposes of this section, terms shall have the definitions given in subchapter III, Chapter 60 of Title 7, and:

(1) "Consumer" means any person who purchases a beverage in a beverage container for final use or consumption.

396 (2) "Deposit" means the sum paid to the distributor by the dealer or to the dealer by the consumer when  
397 beverages are purchased in returnable beverage containers, and which is refunded when the beverage container is returned.

398 (3) "Distributor" means any person who engages in the sale of beverages in beverage containers to a  
399 dealer including any manufacturer who engages in such sale.

400 (4) "Manufacturer" means any person who bottles, cans, packs or otherwise fills beverage containers for  
401 sale to distributors or dealers.

402 (5) "Refund" means the sum, equal to the deposit that is given to the consumer or the dealer or both in  
403 exchange for empty returnable beverage containers.

404 (6) "Returnable beverage container" means a beverage container for which a refund or equal value is  
405 payable upon return, whether such container is refillable or not. This definition and this subchapter shall not apply to any  
406 beverage container which is capable of containing 64 or more ounces of beverage.



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## *Appendix B.*

### *Recycling Public Advisory Council Members*

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Brock J. Vinton II, RPAC Chairman – Representing community-based or public-interest group  
Citizens Solid Waste Solutions Commission

Paul R. Bickhart – Representing the recycling industry  
Recycling Express of Delaware, Inc.

Pasquale S. Canzano – Representing the Delaware Solid Waste Authority  
CEO, Delaware Solid Waste Authority

Richard C. Cecil – Representing the Delaware Association of Counties  
Executive Director, Delaware Association of Counties

Marianne Cinaglia – Representing community-based or public-interest group  
Delaware Environmental Alliance for Senior Involvement

Marjorie A. Crofts – Representing the Dept. of Natural Resources and Environmental Control  
Director, Division of Waste and Hazardous Substances

George Danneman – Representing the soft-drink industry  
Delaware Beverage Association

Kelly Davis – Representing community-based or public-interest group  
Educator, Delaware Technical and Community College Owens Campus

Michael Fusca – Representing the alcohol beverage industry  
Standard Distributing Company

Brenna Goggin – Representing community-based or public-interest group  
Delaware Nature Society

Thomas Houska – Representing the waste hauling industry  
Waste Management, Inc.

Basil Kollias – Representing the Delaware Chamber of Commerce

Carrie Leishman – Representing the restaurant industry  
Delaware Restaurant Association

Julie Miro Wenger – Representing the Delaware Food Industry Council

Kyle Sonnenberg – Representing the Delaware League of Local Governments  
City of Newark

Richard Fleming, Wallace Kremer, and Patricia Todd have recently retired from the RPAC. Thanks  
Dick, Wally, and Pat for your years of service and your efforts progressing recycling in Delaware!

## Appendix C. Recycling Measurement Data

RPAC ANNUAL REPORT - CALENDAR YEAR 2010 Tons of <u>Diverted</u> "EPA-Recyclables" in MSW - Source of Data: DSM <i>"Recyclables" means "those materials recovered from the solid waste stream and transported to a processor or end user for recycling." (EPA530-R-97-011)</i>				
CATEGORIES OF RECYCLABLES		DSM RECYCLABLES SURVEY DATA		
		Delaware Businesses (DSM Report, Appendix) **		
		Tons of Recyclables		
		RESIDENTIAL	COMMERCIAL	TOTAL
<b>Category 1. Diverted "EPA-Recyclables" - MSW materials classified by EPA as "recyclables" diverted from landfill (CY2010)</b>				
PAPER	ONP (old newspapers)	0	1,769	1,769
	OCC (old corrugated containers)	2,365	56,142	58,507
	Mixed Paper	0	5,041	5,041
	Sorted Office Paper	0	7,449	7,449
	Mixed Glass	4,011	0	4011
PACKAGING	Plastic Bottles	0	37	37
	Aluminum Cans	273	273	546
	Pallets, mulched	0	4,186	4,186
	Shrink Wrap	0	425	425
VEHICLE WASTE	Oil Filters	919	230	1,149
	Automotive Lead-Acid Batteries	0	0	0
	Lead Acid Batteries	11,364	2,841	14,205
	Tires	4,039	1,010	5,049
SPECIAL WASTE	Carpet	0	422	422
	Textiles	4,413	0	4,413
	Fluorescent Bulbs	0	7	7
	Mixed Plastics	0	1,353	1,353
	Electronic Goods	1,336	814	2,150
	Other Batteries	91	10.1	101
AG & FOOD WASTES	Fats, Oil, Grease	0	3,557	3,557
	Food waste	0	11,904	11,904
GREEN WASTE,	Leaf and Yard Waste	101,844	8,615	110,459
	Trees and Branches	47,628	5,953	53,581
	Clean Wood (e.g. trees, stumps), mulched	0	2,371	2,371
METALS	White Goods	22,552	97	22,649
SINGLE STREAM	A collected mixture of multiple categories of recyclables	40,765	3,041	43,806
Subtotals, Category 1 (Tons)		241,600	117,547	359,147
** DSM Report: "State of Delaware Assessment of Municipal Solid Waste Recycling For Calendar Year 2010"				

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## *Appendix D. DSWA Measurement Report*

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### **DELAWARE SOLID WASTE AUTHORITY**

Pasquale S. Canzano, PE., BCEE  
*Chief Executive Officer*

Richard P. Watson, PE., BCEE  
*Chief Operating Officer*

**Board of Directors**

Richard V. Pryor  
*Chairman*  
Ronald G. McCabe  
*Vice Chairman*  
Theodore W. Ryan  
Timothy P. Sheldon  
Tonda L. Parks  
Gerard L. Esposito  
Gregory V. Moore, P.E.

November 3, 2011

Mr. Brock J. Vinton II  
DNREC - DAWM  
89 Kings Highway  
Dover, DE 19901

Dear Mr. Vinton:

The Delaware Solid Waste Authority (DSWA) has enclosed facility information requested by the Methodology and Measurement Committee for calendar year 2010. The attached table contains the information that was requested. The table shows the tonnage of material processed at all DSWA solid waste management facilities in calendar year 2010. Please feel free to contact me if you need any further information or clarification on the data presented by DSWA.

Sincerely,

Michael D. Parkowski  
Manager of Business Services  
and Governmental Relations

C:\My Documents\MDP\2011\M&M\Coverletter10.doc

1128 S. Bradford Street, P.O. Box 455, Dover, Delaware 19903-0455  
Phone: (302) 739-5361 Fax: (302) 739-4287

CITIZENS' RESPONSE LINE: 1-800-404-7080 [www.dswa.com](http://www.dswa.com)

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### DSWA Waste Handling and Landfilling Activities CY 2010 by Facility

<b>Cherry Island Landfill</b>	
Asbestos Friable	414
Asbestos Non-Friable #1	341
Asbestos Non-Friable #2	279
C&D Debris	17,474
Household Batteries	33
MSW	371,232
12th Street MSW	7
Tires	239
Transfer Pine Tree	0
Yard Waste Rejects	257
<b>Total</b>	<b>390,276</b>

This facility is located in New Castle County

<b>CSWMC/ Sandtown Landfill</b>	
Asbestos Non-Friable #2	8
C&D Debris	4,882
MSW	85,864
Shredded Tires	14
Tires	317
Transfer from Milford	35,414
Transfer from Pine Tree	64,740
Yard Waste Rejects	19
<b>Total</b>	<b>191,258</b>

This facility is located in Kent County

<b>SSWMC/ Jones Crossroads Landfill</b>	
Asbestos Non-Friable #2	17
C&D Debris	53,421
MSW	82,985
Shredded Tires	54
Sludge	333
Tires	275
Transfer from RT 5 - MSW	77,297
Transfer from RT 5 - C&D	482
Yard Waste Rejects	7
<b>Total</b>	<b>214,871</b>

This facility is located in Sussex County

## *Appendix E. Procedure for Calculating MSW*

### **2010 Procedure for Calculating MSW Handled and or Disposed in the State of Delaware**

1.) The DSWA will produce a report on their waste handling and landfilling activities for the calendar year in question. (In this case 2010.) This report categorizes material received by type and facility. Each category can be assigned to a waste type: Construction and Demolition Waste, Municipal Solid Waste, or Other Solid Waste. (See “Sample Calculation...” below for example.)

2.) For 2010 the gross totals for these categories were:

Gross Totals (tons)			
C&D	MSW	OSW	All
77,318	718,754	333	796,405

3.) These gross totals need to be adjusted for the C&D included in the Self Haul material delivered to the DSWA by non-commercially licensed individuals. A study conducted by DSM in 2011 found that the state average for self haul is around 9% of all materials. This study also concluded that about one third of Self Haul was C&D. For CY2010:

C&D adjustment =  $9\% \times 796,405 \text{ tons} \times 33.3\% = 23,868 \text{ tons}$

To correct the allocation you must subtract 23,868 tons from MSW and add it to C&D yielding the adjusted totals:

Adjusted Totals (tons)			
C&D	MSW	OSW	All
101,186	694,886	333	796,405

4.) Lastly, the numbers must be corrected for any MSW materials which may not be captured by the DSWA. In 2010 the only known example of this is tires (MSW) which were handled by independent businesses which were sold to be used as “Tire Derived Fuel”. In their research, DSM Environmental Services discovered 11,000 tons of such tires. These need to be added to the MSW figure since they are considered MSW but not Recycling per the EPA. Therefore the total MSW should be corrected to  $685,650 + 11,000 = 696,650$  tons for CY 2010.

Final Adjusted Totals (tons)			
C&D	MSW	OSW	All
101,186	705,886	333	796,405

Notes:

- 100% of MSW landfill disposed in Delaware is disposed by the DSWA.
- Nearly all MSW produced in Delaware which is not recycled is processed by the DSWA. In 2010, the significant exception to this was 11,000 tons of tires which were sent to a waste to energy facility. In future years special attention should be paid to materials which are MSW and are reprocessed, but which may not constitute recycling per the EPA530-R-97-011 guidelines.
- It is assumed that very nearly 100% of recycling activities in Delaware are captured by the thorough analysis conducted by DSM Environmental Services on behalf of the RPAC and the DSWA.

### **2010 Procedure for Allocating MSW to the Commercial and Residential Sector**

In 2006 a rigorous statewide waste characterization study was conducted which very accurately attributed the MSW landfilled to the Commercial, Residential, and C&D sectors. This was the last time that a comprehensive analysis was conducted and empirical data was collected. Despite the obvious fact that there have been significant changes in Delaware since 2006 that would most certainly change this allocation today, no better or more scientific data exists to guide this allocation and the 2006 sector allocation by facility will continue to be applied until better data does exist.

To calculate the sector allocation for Delaware MSW, take the allocation by sector by facility from the 2006 report (shown here)

**Allocation by Sector by Facility based upon FY2006 Study**

Facility	Total MSW	Residential		Commercial	
		Tons	%	Tons	%
<b>Cherry Island</b>	472,368	243,231	51%	229,137	49%
<b>Pine Tree Transfer Station</b>	81,433	41,104	50%	40,329	50%
<b>Central Landfill</b>	100,184	53,579	53%	46,606	47%
<b>Milford Transfer Station</b>	39,037	18,759	48%	20,278	52%
<b>Rt. 5 Transfer Station</b>	51,895	25,896	50%	25,999	50%
<b>Southern Landfill</b>	117,697	56,779	48%	60,918	52%

Start with the total material handled by facility (from the DSWA report found in Appendix D), subtract out all non-MSW wastes by facility (adjusted for Self Haul)\*, and apply the remaining MSW by facility to the 2006 allocation by facility as shown here:

**Application of FY2006 Sector Allocation to CY 2010 Waste**

Facility	Total Material	C&D, OSW, &Self Haul	Total MSW	Residential		Commercial	
				%	Tons	%	Tons
<b>Cherry Island</b>	390,276	30,205	360,071	51%	185,407	49%	174,664
<b>Pine Tree Transfer Station</b>	64,740	1,940	62,800	50%	31,698	50%	31,101
<b>Central Landfill</b>	91,104	7,620	83,484	53%	44,647	47%	38,836
<b>Milford Transfer Station</b>	35,414	1,061	34,353	48%	16,508	52%	17,845
<b>Rt. 5 Transfer Station</b>	77,779	2,331	75,448	50%	37,649	50%	37,799
<b>Southern Landfill</b>	137,092	57,880	79,212	48%	38,214	52%	40,999
<b>Non DSWA MSW Disposed</b>	11,000	-	11,000	80%	8,800	20%	2,200
<b>Totals</b>		<b>101,037</b>	<b>706,368</b>		<b>362,924</b>		<b>343,444</b>

Note the addition of the “Non DSWA MSW Disposed”. This is the addition of the 11,000 tons of tires which were not handled by the DSWA but identified in the DSM report. They are included here because they do constitute MSW, but not recycling per the EPA. Further, an allocation of 80% residential and 20% Commercial reflects the allocation of tires used in passed reports.

\* A sample calculation for “Total MSW” can be found on the following page.

### Sample Calculation for Cherry Island Total MSW

Exerpt from “DSWA Waste Handling By Facility” with RPAC category assignment:

Cherry Island Landfill		Assigned to
Asbestos Friable	414	C&D
Asbestos Non-Friable #1	341	C&D
Asbestos Non-Friable #2	279	C&D
C&D Debris	17,474	C&D
Household Batteries	33	MSW
MSW	371,232	MSW
12th Street MSW	7	MSW
Tires	239	MSW
Yard Waste Rejects	257	MSW
<b>Total</b>	<b>390,276</b>	

The total “MSW” for Cherry Island Landfill is the “Total” (above) less the sum of four highlighted items above less the Self Haul C&D ( $9\% \times .333 \times \text{Total}$ ) or:

$390,276 \text{ tons less } (.09 \times .333 \times 390,276) = 390,276 \text{ tons} - 30,209 \text{ tons Self Haul C\&D} = 360,071 \text{ tons MSW}$

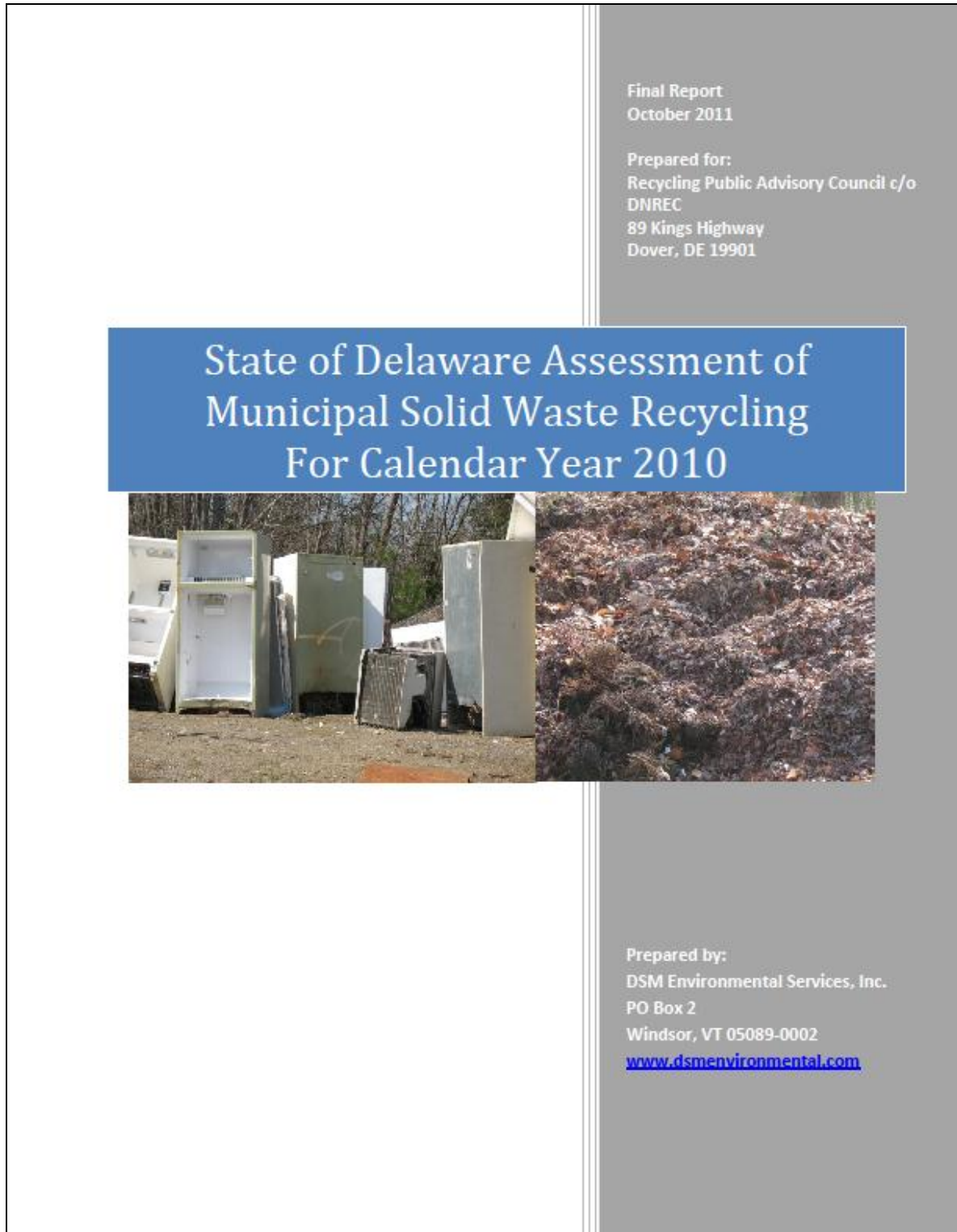
### Application of FY2006 Sector Allocation to CY 2010 Waste

Facility	Total Material	C&D, OSW, & Self Haul	Total MSW	Residential		Commercial	
				%	Tons	%	Tons
Cherry Island	390,276	30,205	360,071	51%	185,407	49%	174,664
Pine Tree Transfer Station	64,740	1,940	62,800	50%	31,698	50%	31,101
Central Landfill	91,104	7,620	83,484	53%	44,647	47%	38,836
Milford Transfer Station	35,414	1,061	34,353	48%	16,508	52%	17,845
Rt. 5 Transfer Station	77,779	2,331	75,448	50%	37,649	50%	37,799
Southern Landfill	137,092	57,880	79,212	48%	38,214	52%	40,999
Non DSWA MSW Disposed	11,000	-	11,000	80%	8,800	20%	2,200
<b>Totals</b>		<b>101,037</b>	<b>706,368</b>		<b>362,924</b>		<b>343,444</b>

The complete DSWA Report, “DSWA Waste Handling and Landfilling Activities CY 2010 by Facility” can be found in Appendix D of this report. The complete MSW calculations and sector allocations for CY2010 are available by request from the RPAC or the DNREC.

## *Appendix F. DSM Measurement Report*

This appendix contains selections from the report shown below. An online version of the full report can be found on the RPAC website ([www.awm.delaware.gov/Info/Pages/RPAC.aspx](http://www.awm.delaware.gov/Info/Pages/RPAC.aspx)).





## Results

The 2010 results are reported in Table 2 below along with the 2009 results to enable comparison. This includes reported materials recovered for recycling or beneficial use by major material category in calendar year 2010, allocated between included and excluded MSW categories as defined by EPA. Table 2 also shows DSWA recycling for 2010 and for 2009 with the difference between the two years reported for total MSW recycling, DSWA alone, and for all other recycling (e.g. MSW). This enables a more straightforward comparison of changes in recycling in the State.

Table 2: Comparison of Material Recycled, CY 2010 and 2009

Material Category	CY 2010			CY 2009			Difference		
	Total (tons)	MSW (tons)	DSWA (tons)	Total (tons)	MSW (tons)	DSWA (tons)	MSW (tons)	DSWA (tons)	Total MSW (tons)
<b>Paper</b>									
Corrugated (OCC)	50,954	50,954	7,553	55,984	55,984	6,997	-5,030	556	-4,474
Newspaper (ONP)	1,769	1,769		2,728	2,728		-959		-959
Sorted Office Paper	7,449	7,449		6,359	6,359		1,089		1,089
Mixed Paper (1)	5,041	5,041		9,218	9,218	148	-4,177	-148	-4,177
<b>Subtotal:</b>	<b>65,212</b>	<b>65,212</b>	<b>7,553</b>	<b>74,290</b>	<b>74,290</b>	<b>7,145</b>	<b>-9,077</b>	<b>408</b>	<b>-8,669</b>
<b>Packaging</b>									
Glass (2)	4,011	4,011		2,850	2,850	81	1,161	-81	1,080
Plastic Film /Shrink Wrap (3)	425	425		2,178	2,178		-1,752		-1,752
Plastic Containers	37	37		27	27		10		10
Aluminum Cans	546	546		171	171		375		375
Pallets (4)	21,792	4,186		1,954	1,954		2,233		2,233
Mixed Recyclables (5)	4,755	4,755	39,051	4,950	4,950	38,075	-196	976	781
<b>Subtotal:</b>	<b>31,566</b>	<b>13,960</b>	<b>39,051</b>	<b>12,129</b>	<b>12,129</b>	<b>38,156</b>	<b>1,831</b>	<b>895</b>	<b>2,726</b>
<b>Vehicle Waste</b>									
Tires (6)	16,119	5,049		22,737	18,735		-13,686		-13,686
Lead Acid Batteries	14,205	14,205		1,917	1,917		12,288		12,288
Oil Filters	724	724	425	195	195	398	529	27	555
<b>Subtotal:</b>	<b>31,048</b>	<b>19,978</b>	<b>425</b>	<b>24,849</b>	<b>20,847</b>	<b>398</b>	<b>-869</b>	<b>27</b>	<b>-842</b>
<b>Special Wastes</b>									
Carpet	422	422		15	15	63	407	-63	344
Textiles (7)	4,413	4,413		3,155	3,155		1,258		1,258
Florescent Bulbs	7	7		38	38		-31		-31
Electronic Goods	241	241	1,909	449	449	2,023	-208	-114	-322
Other Batteries	101	101		3,48	3,48		96		96
<b>Subtotal:</b>	<b>5,185</b>	<b>5,185</b>	<b>1,909</b>	<b>3,662</b>	<b>3,662</b>	<b>2,086</b>	<b>1,523</b>	<b>-177</b>	<b>1,346</b>
<b>Ag and Food Wastes</b>									
Fats, Oil, Grease	3,557	3,557		8,826	8,826		-5,269		-5,269
Food Waste	11,904	11,904		9,812	9,812		2,091		2,091
<b>Subtotal:</b>	<b>15,461</b>	<b>15,461</b>	<b>0</b>	<b>18,639</b>	<b>18,639</b>	<b>0</b>	<b>-3,178</b>	<b>0</b>	<b>-3,178</b>
<b>Green Waste</b>									
Leaf and Yard Waste	95,594	95,594	14,865	65,886	65,886	7,259	29,708	7,606	37,314
Trees and Branches	53,580	53,580		53,281	53,281		299	0	299
Clean Wood	2,371	2,371		0	0		2,371	0	2,371
<b>Subtotal:</b>	<b>151,546</b>	<b>151,546</b>	<b>14,865</b>	<b>119,167</b>	<b>119,167</b>	<b>7,259</b>	<b>32,379</b>	<b>7,606</b>	<b>39,985</b>
<b>Metals</b>									
White Goods	21,676	21,676	973	18,174	18,174	1,270	3,502	-297	3,205
<b>Subtotal:</b>	<b>21,676</b>	<b>21,676</b>	<b>973</b>	<b>18,174</b>	<b>18,174</b>	<b>1,270</b>	<b>3,502</b>	<b>-297</b>	<b>3,205</b>
<b>Other</b>									
Mixed Plastics (8)	2,705	1,353		1,338	669		684		684
<b>Subtotal:</b>	<b>2,705</b>	<b>1,353</b>	<b>0</b>	<b>1,338</b>	<b>669</b>	<b>0</b>	<b>684</b>	<b>0</b>	<b>684</b>
<b>Total</b>	<b>324,399</b>	<b>294,371</b>	<b>64,776</b>	<b>272,246</b>	<b>267,576</b>	<b>56,314</b>	<b>26,795</b>	<b>8,462</b>	<b>35,257</b>

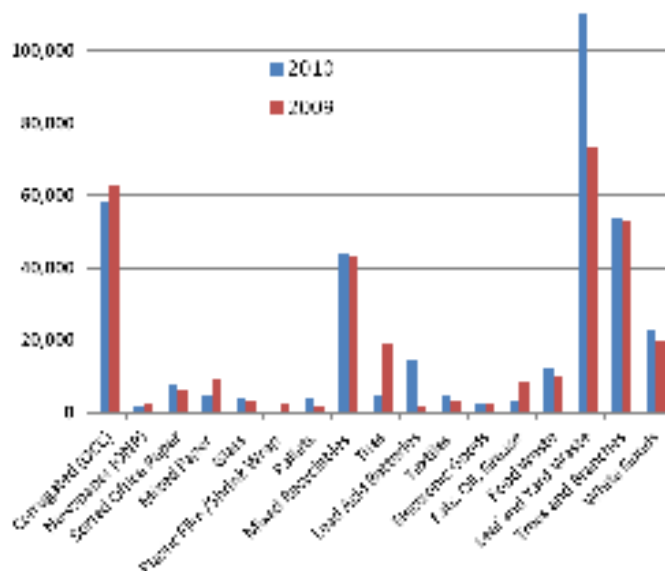
## Table 2 Notes:

- (1) **Mixed Paper:** All mixed paper reported was included as MSW even in cases where processors did not reveal sources. The undeliverable mail recycling program is now handled directly by the US Postal Service who reported to DSM for 2010.
- (2) **Glass:** Glass was handled directly by beverage distributors for CY 2010.
- (3) **Plastic Film / Shrink Wrap:** This category includes plastic retail bag recycling as most generators were unable to report on plastic bags separate from film and shrink wrap quantities.
- (4) **Pallets:** Only pallets composted or ground for mulch are included in the totals reported for MSW recycling.
- (5) **Mixed Recyclables:** Single stream material collected from Wilmington's curbside recycling program and other collectors during CY 2010 and separate from DSWA Single Stream recycling, which is reported in the DSWA column and includes DSWA curbside, drop-off and single stream material delivered directly to the DSWA transfer facility.
- (6) **Tires:** A large amount of tires (over 11,000 tons) were processed as tire derived fuel, which is excluded from the EPA recycling rate. The balance went to end uses such as crumb rubber and engineered products including drainage material, and playground surfacing, which is included in the EPA rate.
- (7) **Textiles:** Used clothing (including shoes) exported for recycling or reuse. The end uses change based on the condition and changing markets. Typically clothing is sorted into 4 color categories and sold as rags, or bagged as is and sold as clothing. No breakdown of the actual end use is available.
- (8) **Mixed Plastics** may include plastic packaging, beverage containers and stretch film, but are reported as mixed plastics by the recycler. Roughly 50% are estimated to qualify as "MSW recycling" consistent with the estimates made in prior years.

The **"Difference"** in MSW recycling (the columns on the right hand side of Table 2) is reported first as MSW tons exclusive of DSWA collections, then reported for DSWA alone, and finally reported for the State as a whole including DSWA tonnages. The format for Table 2 has been modified slightly to more closely follow the RPAC Annual Report Worksheet as found in Appendix C of the Annual Report of the Recycling Public Advisory Council (November, 2010).

As illustrated by Table 2, total recovery, exclusive and inclusive of DSWA recycling activity, increased by 26,800 and 35,300 tons (rounded) respectively. This is the result of a combination of factors, described by material type below. Figure 1 below compares the major material category totals for 2010 and 2009 for all materials, including those recycled through DSWA programs and/or facilities. As illustrated by Figure 2 the bulk of the increase comes from increased leaf and yard waste diversion.

**Figure 1: Comparison of Material Recycled, CY 2010 and 2009 (Tons by Material)**





## Paper Recycling

The economic downturn that began in 2008 appears to have continued through 2009 and into 2010, impacting paper generation and recycling (especially OCC). Another factor is the continued increase in the use of electronic media and recordkeeping, reducing paper generation. Finally the increase in single stream recycling will continue to reduce the amount of paper recycling reported because it will instead be reported as single stream material. DSWA believes that this is a factor in 2010, given the amount of OCC observed being delivered to DSWA single stream transfer stations.

Some processors and brokers reported that the decrease in OCC was primarily due to the economy. However two large brokers and one processor reported having fewer or no accounts in Delaware. It is possible this material was picked up by a new broker servicing these accounts that DSM was unable to track.

The majority of the newspaper decrease can be traced back to one confidential survey, and is likely due to the economy and the continuing trend in the decrease in the size and volume of newspapers. There was an overall decrease in other paper recycling but with an increase in Sorted Office Paper, partially explained by better reporting by one major processor. This was overshadowed by a greater decrease in the amount of Mixed Office Paper processed and some recycling companies speculated that it was the economy driving the volume down.

## Packaging Waste

Recycling of packaging wastes are up by 2,726 tons. This increase is a function of three main factors.

First, significantly higher pallet recycling was reportedly used in mulch applications which is classified as recycling under the US EPA definition.

Second, one major generator that had estimated shrink wrap recovery for 2009 had detailed weigh records for 2010, and reported a much lower volume.

Third, changes in the way glass recycling was handled and reported in 2009 impacted on reported recycling rates. DSWA had processed the glass from beverage distributors for recycling in previous years, but in CY 2009 distributors sent glass out of state for recycling, and then shifted mid-year to a third method. As a result, reporting was incomplete from one distributor for 6 months of CY 2009. For CY 2010, a full year was reported.

Fourth, there was also an increase in single stream recycling for CY 2010 (roughly 800 tons) and increase in material handled by DSWA. While single stream material collected through the DSWA drop-offs and curbside programs declined, material collected by private haulers and delivered to DSWA transfer facilities increased. This reflects some of the changes that are likely to continue through Universal Recycling with the role of DSWA as collection agent declining but as transfer agent possibly expanding.

Finally, the City of Wilmington reported roughly the same volume for 2010 as for 2009, with the loss experienced from 2008 (over 2,000 tons) now verified. This decrease was due to a large reduction in contamination, a decrease in the households served (down by 2,700, many of which were large contributors to the contamination) and a decrease in the amount of material set out per household (likely due to the economy).

## Scrap Metal

All of the metal recyclers DSM spoke with reported a tough year in 2009 due to the economy with 2010 being a better year. White goods were up by 3200 tons (rounded) which likely reflects both greater consumer purchases of appliances (with discards of old ones), as well as scrap metal dealers selling when prices were higher. Two scrap metal recyclers reported aluminum cans separate from aluminum scrap metal, and this enabled DSM to report higher numbers for aluminum can recycling. DSM discontinued reporting of all other scrap metals not counted as MSW recycling to reduce the burden on scrap metal recyclers to report.

## Green Waste

CY 2010 saw a large increase in the recovery of green waste. Leaf and yard waste recovery was up by over 37,000 tons over CY 2009. In addition separate reporting of clean wood was included in 2010 (2371 tons total). This increase is largely explained by better compliance and enforcement of leaf and yard waste bans at the DSWA facilities as well as landscapers and tree companies having slightly more tree and shrub work than in CY 2009. In addition, the demand of the Wilmington Organic Recycling Center (WORC) facility may help to drive increased green waste recycling, or better reporting of diverted green waste. The WORC facility opened in December 2009 and has the capacity to process 160,000 tons of food and other organic wastes and expects to serve state, federal and municipal institutions, schools and universities, supermarkets, importers, restaurants and convenience stores, landscapers and contractors inside and outside of Delaware

## Food Waste

There was an increase in food waste recycling reported for 2010 due to one recycler (who handles fats, oil and grease) reporting more material and a new facility that came on line in 2009 continuing to accept food waste from Delaware. The WORC facility reported a slight increase in food waste coming from Delaware for 2010 over 2009 but has the capacity to handle more food waste from Delaware.

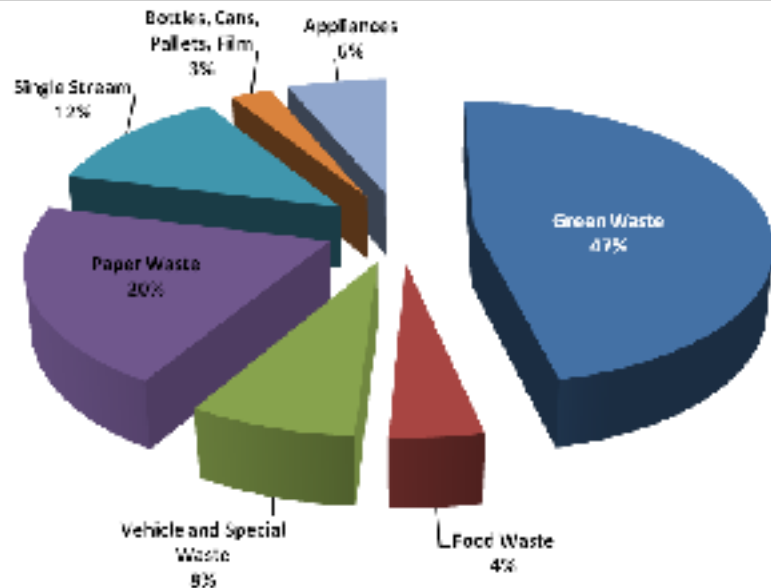
## Vehicle Waste

The tons of tires reported as recovered for other uses decreased by 6,600 tons (rounded). This is due to one major tire recycler reporting substantially lower quantities recovered. Because tire recyclers often stockpile tires, the tons of tires reported as recovered do not directly correlate with the amount of tires disposed in a given year in the state of Delaware.

More interesting is the end uses of tires largely shifting to fuel – either going to waste to energy facilities in the region, or being processed for tire derived fuel and sold to facilities farther away. This may be because less tires were used in the construction at the Cherry Island Landfill – which would count as recycling, whereas tires going to waste-to-energy do not.

Figure 2, below illustrates the breakdown of MSW materials recovery, by material type, for Delaware for 2010, including DSWA recycling activity and emphasizes the growing role of single stream recycling and leaf and yard waste composting in materials recycling.

**Figure 2: Materials Recovery by General Material Category Included in EPA Definition of MSW Recycling (State of Delaware, CY 2010)**



### Residential vs. Commercial Recycling Activity

DSM estimated the percentage of each material recycled and classified as MSW generated by a residential as opposed to a commercial source. This includes material that was collected by DSWA, and through DSWA programs. These allocations are shown in Table 3.

In some cases, the source of the material was clear, however in other cases DSM was required to make our best professional judgment as to the source of the material. Since EPA does not attempt to quantify residential and commercial recycling separately, generally acceptable guidelines for allocation of materials recycling to the residential and commercial sector are not available.

However DSM has worked with RPAC over the last few years to develop and agree upon acceptable allocations of materials recycling to the commercial and residential sectors. For example, 90 percent of all of white goods are reported as residential recycling. Leaf and yard waste totals are allocated as 8 percent commercial with the balance residential consistent with the 2004 survey of yard waste generators and processors.<sup>2</sup> Finally trees and branches are allocated as 11 percent commercial, and the balance residential, consistent with the same 2004 survey.

It should be noted when reading Table 3 that in the past significant amounts of newspaper, corrugated and mixed paper generated by residential sources were reported directly to the M&M Subcommittee separately by DSWA, while now all paper, with the exception of separated cardboard, collected by DSWA is a single stream of paper and containers and reported under "packaging" and reported directly to DSM and included in this report. This makes year to year comparisons of paper recycling in this report and in aggregate more difficult.

<sup>2</sup> This 2004 report surveyed landscapers and other generators or processors of yard waste, brush and tree waste and found roughly 8 percent of leaf and yard waste and 11 percent of tree waste was stated to be from commercial sources.



**Table 3: Estimate of Residential vs. Commercial MSW Recycling Activity (CY 2010)**

<b>Material Category</b>	<b>Residential (tons)</b>	<b>Commercial (tons)</b>	<b>Total MSW (tons)</b>
<b>Paper</b>			
Corrugated (OCC)	2,365	56,142	58,507
Newspaper (ONP)	0	1,769	1,769
Sorted Office Paper	0	7,449	7,449
Mixed Paper	0	5,041	5,041
<b>Subtotal:</b>	<b>2,365</b>	<b>70,401</b>	<b>72,765</b>
<b>Packaging</b>			
Glass	4,011	0	4,011
Plastic Film / Shrink Wrap (1)	0	425	425
Plastic Containers	0	37	37
Aluminum Cans (2)	273	273	546
Pallets	0	4,186	4,186
Mixed Recyclables (3)	40,765	3,041	43,806
<b>Subtotal:</b>	<b>45,049</b>	<b>7,962</b>	<b>53,011</b>
<b>Vehicle Waste (4)</b>			
Tires	4,039	1,010	5,049
Lead Acid Batteries	11,364	2,841	14,205
Oil Filters	919	1,148	1,148
<b>Subtotal:</b>	<b>16,322</b>	<b>4,999</b>	<b>20,403</b>
<b>Special Wastes</b>			
Carpet	0	422	422
Textiles (5)	4,413	0	4,413
Florescent Bulbs	0	7	7
Other Batteries	91	10.1	101.2
Electronics (6)	1,336	814	2,151
<b>Subtotal:</b>	<b>5,840</b>	<b>1,253</b>	<b>7,094</b>
<b>Ag and Food Wastes</b>			
Fats, Oil, Grease	0	3,557	3,557
Food Waste	0	11,904	11,904
<b>Subtotal:</b>	<b>0</b>	<b>15,461</b>	<b>15,461</b>
<b>Green Waste</b>			
Leaf and Yard Waste (7)	101,844	8,615	110,459
Trees and Branches (8)	47,628	5,953	53,581
Clean Wood	0	2,371	2,371
<b>Subtotal:</b>	<b>149,472</b>	<b>16,939</b>	<b>166,411</b>
<b>Metals</b>			
White Goods (9)	22,552	97	22,649
<b>Subtotal:</b>	<b>22,552</b>	<b>97</b>	<b>22,649</b>
<b>Other</b>			
Mixed Plastics (10)	0	1,353	1,353
<b>Subtotal:</b>	<b>0</b>	<b>1,353</b>	<b>1,353</b>
<b>Total:</b>	<b>241,600</b>	<b>118,466</b>	<b>359,147</b>

**Table 3 Notes (Numbers may not add due to rounding):**

- (1) Includes retail bags returned as part of grocery and retail recycling programs.
- (2) Aluminum can recycling reported by scrap metal dealers assumed to be 50% residential and 50% commercial.
- (3) Single stream recycling through DSWA curbside programs and through Wilmington assumed to be 100% residential. Single stream recycling delivered to the DSWA drop-offs and transfer stations assumed to be 90% residential and the balance commercial.
- (4) All vehicle wastes recycled are assumed to be 80% residential and 20% commercial. This is consistent with past reporting. Reported source of tires was 80% cars by one major tire recycler.
- (5) All textiles are considered residential consistent with past reporting. The documented source of textiles is unknown, however DSM assumes most textiles came from residential sources. Also textiles reused are excluded under EPA but included here since reuse versus recycling cannot be determined.
- (6) Electronics collected by DSWA are assumed to be 70% residential as estimated by DSWA staff for CY 2010. All other electronics assumed to be commercial consistent with past reporting.
- (7) White goods collected by DSWA assumed to be 90% residential and 10% commercial. All other white goods collected by scrap metal recyclers and retailers assumed to be 100% residential consistent with prior reporting.
- (8) Leaf and Yard waste allocations were made using the same percentage used in previous DSM reports.
- (9) Tree waste allocations were made using the same percentage used in previous DSM reports.
- (10) Mixed plastics are assumed to be 100% commercial consistent with past reports.

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## Appendix G. Outreach Examples

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**Figure G.1 – “Delaware Recycles” Logo, used to unify and brand outreach efforts**



**Figure G.2 – Radio Advertisements**

Ongoing 60 second radio ads from late Spring 2011 – late Spring 2012. Messages are changed regularly. The stations Eagle 97.7, Cool 101.3, and La Exitosa 930 air at least 24 advertising spots per month. The stations WSTW 93.7 and WDEL 1150 air at least 13 spots per month. All stations air the spots on their respective websites as well as providing links to [www.recycling.delaware.gov](http://www.recycling.delaware.gov). This is a sample script:

(JINGLE: “Delaware recycles...its second nature”)

Delaware is recycling more and it’s easier than ever. In fact, the more we recycle, the more it becomes second nature. And the benefits are real. Think about this: Recyclable materials – tin cans for example – instead of going into the trash and on to a landfill can be used to make new products and most of those products are better and made with less energy than those made with 100% raw materials. Glass bottles and jars can be recycled into new products forever, but trash them and they never decompose. Plastic bottles, grocery bags, cardboard, & newspapers – it’s up to us to keep these materials from piling up in our landfills. Don’t treat them like garbage, RECYCLE! For more information on how to recycle, go to [recycling.delaware.gov](http://recycling.delaware.gov)

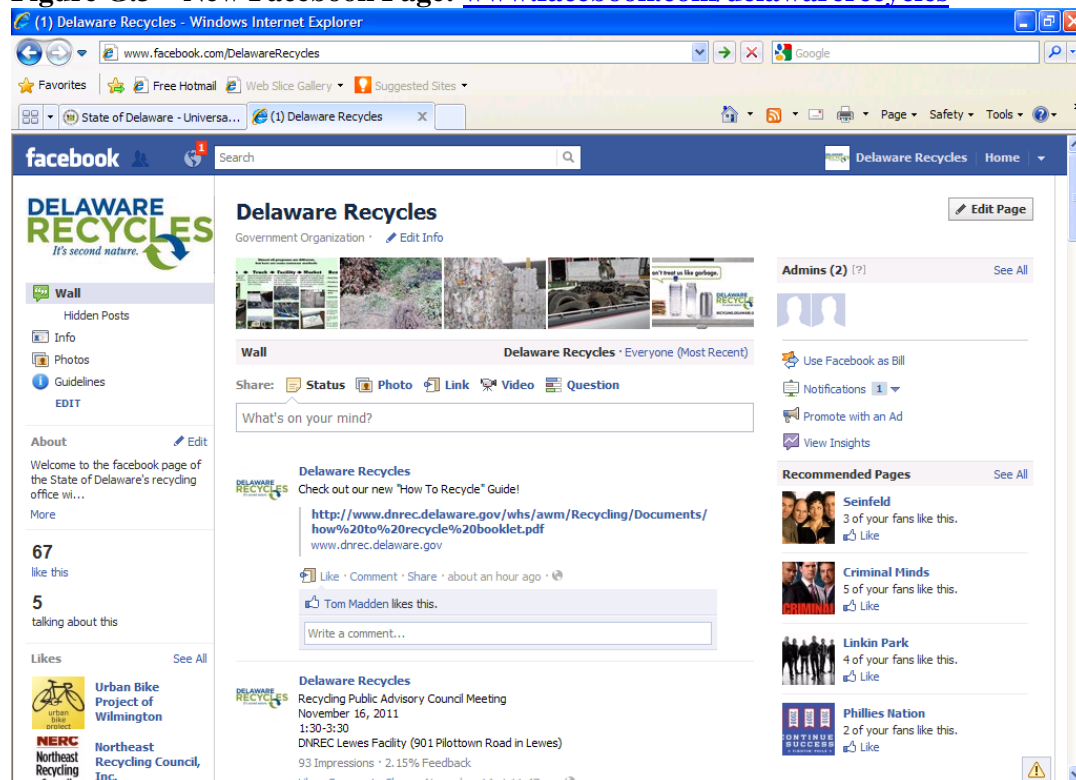
(JINGLE: “Delaware recycles...its second nature”)

**Figure G.2 – New website: [www.recycling.delaware.gov](http://www.recycling.delaware.gov)**





**Figure G.3 – New Facebook Page: [www.facebook.com/delawarerecycles](http://www.facebook.com/delawarerecycles)**



**Figure G.4 – Billboard Example, 11 billboards posted statewide from Aug.-Nov. 2011**



Locations: Rt. 202 facing South (North of Silverside Rd. near Wilmington), Rt. 7/Rt. 4 facing Southwest (West of Stanton), Rt. 2 facing West (near Meadowwood Dr. intersection), Rt. 896/Rt. 71 facing South (near Middletown), Rt. 1 facing North (South of Rt. 299), Rt. 13 facing South (near Garrison's Lake North of Cheswold), Rt. 8 facing West (West of Dover), Rt. 13 facing North (North of Rt. 9 in Laurel), Rt. 113 facing North (South of Road 380 near Frankford), Rt. 404 facing West (West of Rt. 30 near Georgetown), Rt. 404 facing East (6 miles West of Georgetown).

**Figure G.5 – 1 Page Ad in *Lifestyles* 55**

Page sponsored by DHSS Division of Services for Aging and Adults With Physical Disabilities



## ***Recycling in Delaware – What it Means to You***

Recycling carts are becoming more and more common throughout Delaware on pickup days as implementation of universal recycling approaches the first deadline for service. Under the Universal Recycling Law signed last year by Governor Markell, all single family residences with trash service and most restaurants and bars will be provided with recycling service by their waste haulers by September 15, 2011.

Waste haulers have already been providing this service to most customers in anticipation of September 15. Recycling collection services will be provided to multi-family residential customers by January 1, 2013; and all commercial businesses will participate in a comprehensive recycling program by January 1, 2014.

The following information is provided to clarify key components of universal recycling.

### **BINS/CARTS**

The Universal Recycling Law does not require a certain size bin for recycling. There is no 'one size fits all' scenario. Various sizes and styles of recycling containers are used in Delaware and elsewhere. Many waste haulers offer tailored collection options including different recycling container sizes to accommodate their customers' needs. If needed contact your hauler about alternative sized containers.

### **SINGLE STREAM RECYCLING**

Single stream is an industry term that means no sorting of common recyclables. Delaware's recycling program is now easier because all recyclables are tossed into one recycling cart with no need for sorting.

### **ITEMS TO RECYCLE**

Recycle plastic bottles, glass bottles, cans, newspaper, magazines, junk mail, office paper, cardboard, even paperboard products like cereal boxes. Contact your waste hauler if you have questions about a particular item.

### **PICKUP OF RECYCLABLES**

All waste haulers – municipal or private – are required to pick up your recyclables at least once every other week under the law. Your waste hauler will let you know what days your recyclables should be put out for collection.

### **COST**

The cost for service each waste hauler establishes is an individual business decision. While the law does require the haulers to provide the recycling service, it does not require the waste haulers to charge for it and prices vary based on a variety of factors. If you are not satisfied with your price or service, contact your hauler. Many offer discounts or can tailor your service to better accommodate you. If you are still not satisfied, check with other haulers in your area. There are many options available.

### **WHY RECYCLE?**

There are many good reasons to recycle and all are related to improving our environment and our economy. But the bottom line is this: if we don't do more to recycle as a State, then we're all going to pay more for disposal. In 2010 the landfill tipping fee went from \$61.50 per ton to \$80 per ton and right now all three of Delaware's landfills are undergoing expansion projects at a price tag of \$150 million. These are costs we ultimately must bear as consumers. Disposal costs are not going to decrease.

**For questions about pricing and customer service** – contact your waste hauler. **For questions about the Universal Recycling Law** – call 302-739-9403 or visit [www.recycling.delaware.gov](http://www.recycling.delaware.gov)

Delaware Aging  
and Disability  
Resource Center  
(800) 223-9074



**DELAWARE HEALTH  
AND SOCIAL SERVICES**  
Division of Services for Aging and  
Adults with Physical Disabilities  
[www.dhss.delaware.gov/dsaapd](http://www.dhss.delaware.gov/dsaapd)

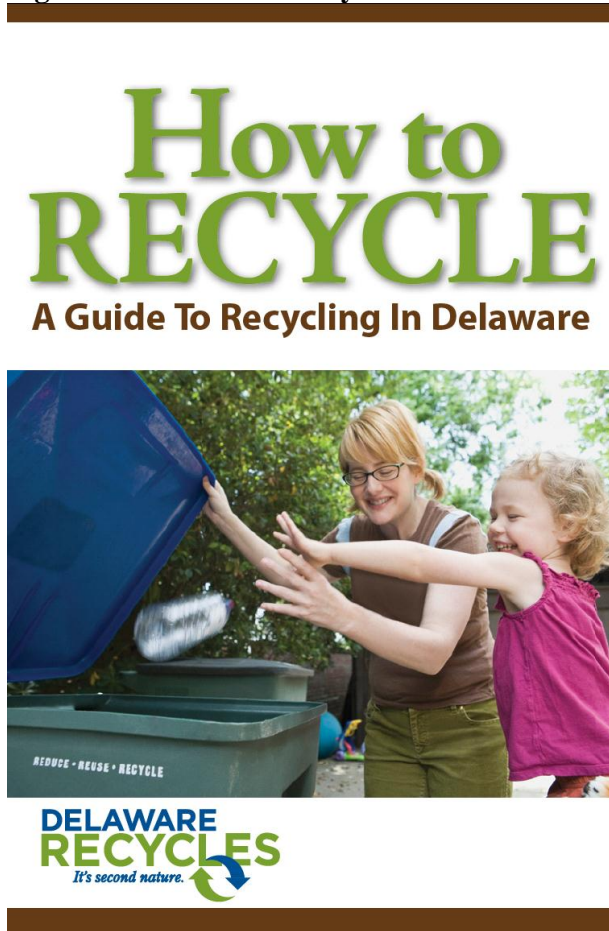
e-mail  
DelawareADRC  
@state.de.us

**Figure G.6 – WMDT TV Commercial, also available on YouTube:**

<http://www.youtube.com/user/WMDTProduction?blend=1&ob=5#p/u/0/gMyiDqCZWbs>



**Figure G.7 – How To Recycle Guide**





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## *Appendix H. Background of Recycling Efforts in Delaware*

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The State of Delaware first began promoting recycling in 1975 with the passage of the Delaware Solid Waste Authority's enabling legislation. This led to the opening of the Delaware Reclamation Plant, which held the title of the largest recycling/reclamation project in the world for nearly 11 years. About 2.5 million tons of municipal solid waste and 0.5 million tons of sewage sludge were processed through this plant. This facility was shut down in 1993 and the plant was modified to operate as the Delaware Recycling Center which processes and markets all the recyclables from the 'RECYCLE DELAWARE' Drop-Off Program.

The next major milestone was the implementation of the Beverage Container Law in 1979 designed to prevent roadside littering.

In 1990, the statewide drop-off recycling program, known as 'RECYCLE DELAWARE', was established by the Delaware Solid Waste Authority. The DSWA currently operates over 140 'RECYCLE DELAWARE' centers and collects about 27,500 tons/year of recyclables. Included are brown, green and clear glass bottles, plastic bottles, newspaper and magazines, aluminum and steel cans (including aerosols), plastic grocery bags, textiles, motor oil and oil filters, corrugated cardboard, and household batteries (the batteries are not recycled, but disposed of properly).

Despite these recycling milestones, Delaware's former Governor, Thomas Carper, received frequent letters and phone calls from Delaware residents requesting implementation of curbside collection of recyclables. These requests spurred Governor Carper to call a meeting in late 1998 with representatives of the DNREC, the Delaware Economic Development Office (DEDO) and the DSWA to discuss the feasibility of implementing curbside collection of recyclables in Delaware. The result of this meeting was the issuance of Executive Order No. 60 establishing the Citizens' Work Group on Recycling to evaluate recycling in Delaware. The work group would also recommend ways to increase recycling in Delaware.

In the spirit of conservation and pursuant to the report "A Course of Action to Increase Recycling in the State of Delaware," which was developed by and contained the recommendations of the Citizens' Work Group on Recycling, Governor Thomas R. Carper signed Executive Order Eighty-Two which:

1. Established the goal of a thirty (30) percent diversion rate for recyclables from Delaware's residential solid waste stream.
2. Required the Department of Natural Resources and Environmental Control (DNREC), Division of Air and Waste Management (DAWM) to work in concert with the Delaware Solid Waste Authority (DSWA) and the Recycling Public Advisory Council (RPAC) to:
  - a) develop a method for measuring recycling,
  - b) establish a recycling grant program,

- c) establish a public outreach and education program aimed at educating the general public and students on the value of recycling as well as to increase the recycling rate,
  - d) provide technical assistance to local entities to increase the recycling rate, and
  - e) provide administrative support to the RPAC.
3. Established the nine (9) member RPAC and tasked the RPAC with:
- a) advising DNREC and DSWA on all aspects of recycling,
  - b) advising DNREC on developing grant criteria,
  - c) advising DNREC and DSWA on outreach activities to increase recycling, and
  - d) developing an annual report due on December 1st of each year detailing the status of recycling activities within Delaware.

Governor Minner appointed the members of the RPAC early in her Administration and the first RPAC meeting was held on February 27, 2001. DNREC also hired an Environmental Scientist and a Community Relations Officer to assist the Council. The Environmental Scientist aided the Council in developing the method for measuring recycling and provided recycling technical assistance to Delaware's communities and local governments.

The RPAC contracted a study on residential curbside recyclables collection in New Castle County. The final report, titled "Evaluation of Enhanced Residential Waste and Recyclables Collection and Processing for New Castle County", was published in 2003 by DSM Environmental Services, Incorporated. The report concluded that curbside collection of recyclables could be done at least as, if not more, cost effectively than trash if the system is properly designed.

In early 2006, Senate Bill 225 (SB 225) was introduced in the Delaware Senate. It established a framework for a statewide curbside recycling system, established a Recycling Fund to help pay for recycling programs, banned yard waste from disposal (providing for development of yard waste management facilities), established statewide recycling goals, and established the RPAC. The Governor's Office, DNREC, DSWA, and the RPAC all supported SB 225. The Bill did pass the Senate with amendments but it was tabled in the House of Representatives.

In October of 2005, DNREC Secretary, John Hughes, established the Solid Waste Management Technical Working Group (SWMTWG) pursuant to a directive from Governor Minner. It was comprised of individuals with technical backgrounds, financial backgrounds, and/or experience with municipal solid waste management systems and technologies. The SWMTWG was tasked to perform a feasibility review of municipal solid waste management alternatives and to recommend a program or programs that would best serve Delaware's municipal solid waste management needs. In April of 2006, the SWMTWG produced a report that recommends the state implement effective source reduction and recycling programs and building a processing facility.

The Citizens Solid Waste Solutions Commission (CSWSC), an organized group of environmentally conscious citizens, also produced a report in 2006. They called for more convenient and cost-effective recycling programs, better processing facilities for recyclables and discards, opposition to incineration, and a more focused recycling agency than the DSWA. They argued that recycling is an issue of resource management rather than one of waste disposal.

The City of Wilmington initiated a single-stream curbside recycling trial for over 6,000 households in the Summer of 2006. The City has partnered with RecycleBank, a recycling company based in Philadelphia, to provide the service. RecycleBank provides wheeled recycling containers, retrofits Wilmington's trucks to service the containers and weigh the material, provides various data reports, and provides outreach and education about the program. Through the RecycleBank program, participating households can earn up to \$35 per month in RecycleBank Dollars which can be redeemed at stores of the customer's choosing. The incentive encourages residents to recycle and helps Wilmington to divert waste from the landfill. The recycling rate in Wilmington's trial areas went from almost zero to about 35% in about six months. In 2007 the program was expanded citywide.

In September of 2006 Governor Minner signed Executive Order 90 (see Appendix A) which replaced Executive Order 82 and re-established the RPAC. The new Executive Order 90 increases the membership of the RPAC by two public members. It also increases the former recycling diversion rate goal from 30% of residential solid waste to 51% of municipal solid waste.

The Cherry Island Landfill permit was renewed in 2006 with language that required the DSWA to ban yard waste from entering the landfill no later than January 1, 2007. After dozens of community meetings, a legislatively mandated delay in the ban, and the opening of three community yard waste demonstration sites, DNREC and the DSWA began enforcement of the ban on January 24, 2008.

House Bill 159 (HB 159) was introduced in 2007 and would have encouraged recycling via a comprehensive recycling grants program while discouraging disposal via a \$3 per ton assessment on landfilling. In May of 2008, HB 159 passed in the House of Representatives but was defeated in the Senate in June of 2008.

Starting in January of 2008, Kent County provided single-stream recyclables collection to residents serviced in their trash districts. This increased the number of Delaware households participating in recycling by over 11,000.

In early 2008, the DSWA converted their recyclables collection programs to single-stream. Participants no longer needed to separate traditional recyclables (i.e. glass bottles, cans, plastic bottles, mixed papers) by material type. As a result, recycling became more convenient and easier for people to participate. Other entities, including some waste haulers, also began to offer single-stream recyclables collection service.

House Bill 201 was passed by the General Assembly on the last day of session in June of 2009. It essentially repealed the Delaware Beverage Container Law (or Bottle Bill), removing the deposit and redemption system related to beverage containers. However, Governor Markell vetoed House Bill 201 in July of 2009 on the grounds that it would have a negative impact on recycling while offering no viable alternative.

A large, new compost facility broke ground near the Port of Wilmington in May of 2009. Peninsula Compost Company, LLC completed construction of the Wilmington Organic Recycling Center in December 2009. It has the capacity to compost 160,000 tons of food and yard waste annually.

In February 2010, Governor Markell signed Executive Order 18. This Executive Order set goals in the following categories for the executive branch of state government: energy conservation/efficiency, LEED green building practices, renewable energy, reduced transportation impacts, recycling diversion (75%), and environmentally preferable purchasing.

The Delaware Solid Waste Authority updated its Statewide Solid Waste Management Plan in April 2010. It calls for many waste reduction strategies, several of which require action from government and businesses.

The composting operation of Blue Hen Organics near Frankford, Sussex County was approved in April 2010. The facility accepts up to 50,000 cubic yards of yard waste and wood waste annually.

On June 8, 2010, Senate Bill 234 was signed into law. This legislation passed after significant input from many stakeholders and coordination from the Governor's Office. It will transition Delaware out of a flawed beverage container deposit system into a strong, comprehensive recycling system. It also legislatively created a reformed RPAC.

In July of 2010, the DSWA and DNREC agreed to permit conditions that restrict yard waste at the Central Solid Waste Management Center (Sandtown Landfill) and the Southern Solid Waste Management Center (Jones Crossroads Landfill). As of January 1, 2011, those facilities no longer accept yard waste mixed with trash.

As of September 15, 2011, all single-family households and many bars and restaurants have been provided recycling collection services.